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ORIGINAL LECTURES.

CLINICAL LECTURE
ON SUBACUTE BRONCHITIS IN CHILDREN.

Delivered at the Philadelphia Hospital

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Reported by WILLIAM H. MORRISON, M.D.

GENTLEMEN,—I shall, in the first place, bring before you a case which you saw some weeks ago, in order to show you the results of treatment. This child, as you will remember, is about 18 months old, and came into the ward in a very wretched condition. At that time I gave you a complete demonstration of the physical signs which were present. The child had been neglected before being brought to the house, and was at that time suffering with bronchitis of a subacute type. The treatment I then recommended was pursued. For some time the child did not seem to improve. At the same time, he did not seem to lose ground. Afterwards improvement gradually began, and the child is now much better than when you last saw him. It shows that, with proper care, children in even as low a condition as this one will pull through. This is, of course, more apt to occur in private practice than in hospitals. There was scarcely any fat on this child's bones when it was admitted, but now the chest has become much fuller, and the arms and limbs have grown larger. Its expression of countenance has also improved.

The treatment has consisted in the daily rubbing with a liniment containing cod-liver oil. It also received an emulsion of cod-liver oil, one-fourth of which was composed of the oil. To this was added Lugol's solution of iodine in the proportion of one drop to each dose. Quinine suppositories have been used for their tonic effect.

One reason for bringing the child before you to-day was on account of the question which arises as to the reason of the rapid wasting in this case. As I told you, the rapid wasting in such a case as this might depend on tubercular disease. This was especially the case, as we heard that the mother had died of phthisis; also we had symptoms calling our attention particularly to the chest, and there was a probability of enlargement of the abdominal glands. One point which was absent in this case was the fever. This is rather important, for the fact that there was no fever in this case rather pointed to the absence of tubercular disease. The temperature was taken every night with the thermometer in the rectum,—which is the proper way of taking the temperature in children,—but no rise of temperature was observed. The bronchitis gradually disappeared; the pulse remained normal; food began to be digested. The diet consisted of milk and Valentine's beef-extract, which is used quite largely in this house. There has been no vomiting, no purging, and no extra amount of tympanitic distention of the abdomen.

The next question—that of syphilis—was carefully discussed, and we came to the conclusion at the time that, as far as symptoms and appearance were concerned, there was no reason to believe that it existed. But our suspicions were aroused, and they always should be in the wasting diseases of children. The child did not have "snuffles" when it entered the house. What it had at birth I am unable to say. There was no eruption, nor stains of one; no mucous patches. Nevertheless, the results of treatment point to a syphilitic taint, but one which does not involve the integument or mucous membranes.

It might be that the poison came from a long-existing disease in either parent, which had been modified and rendered latent by constitutional treatment or time, and thus appeared in the offspring, as you see it affecting the mesenteric and bronchial glands, checking bony deposit, perverting dentition, and interfering with circulation by minute gummy deposits.

Do you always find emaciation in cases of inherited syphilis? By no means, according to my experience. This I wish to impress upon you. Some of you may remember a case which I showed to the class last year, one year of age, which had very large gummæ on the back and on the thighs. The infant was remarkable for its size and appearance of health. My friend

Dr. Van Harlingen, who saw the case, pronounced it syphilitic. The child had never been sick a day, but had been born with a "cold," and its mother had previously miscarried, and gave evidence of specific disease.

One of the worst cases of constitutional syphilis that I ever saw in this house was well nourished,—indeed, stout for its age. I have often noticed this, and I believe that it constitutes a characteristic of children who are infected with a mild form of specific disease inherited from parents who have supposed themselves cured before marriage. I would ask you to bear this in mind should a robust and to all other appearances healthy infant be brought to you with obscure symptoms,—a persistent eczema, or rickets in the ordinary acceptation of the term,—it may be really either retarded ossification, or, possibly, osteomalacia.

I recently attended the autopsy of a child, and from the appearances determined that it was syphilitic. It was but a few months old. The child was well nourished, had well-rounded limbs, and its chest was well covered with fat. It died from heart-clot, possibly caused by the pressure of enlarged glands. The heart-clot was enormous, greatly distending the right ventricle, completely shutting off the supply through the pulmonary artery. It extended through the jugulars and into the lateral sinuses. In the centre it was firm and of a chicken-fat color. The mesenteric glands were as large as grains of barley, some much larger; in fact, all the glands were enlarged.

The father afterwards acknowledged a hard chancre and palmar psoriasis many years before.

I am led to believe that the more we study these disorders from a clinical standpoint, the more we shall be impressed with the fact that many of the phases presented by the strumous diathesis are simply evidences of the presence of syphilitic virus, latent perhaps for many years in the father, transmitted by him to the offspring independent of the mother, and appearing at times when there is nothing to call our attention to it as a cause, and in so insidious a manner as to quiet suspicion. This is still a mooted question.

One feature has been well marked for some time. The child's head has become much larger. You will notice that the expression of its countenance differs from that ordinarily found. The eyes have a sort of upward look. The forehead, which projects, is somewhat square, and over it enlarged veins can be distinctly seen. The head also has a square shape. The veins are especially distinct over the top of the head. This marked prominence of the veins may be due to one of two causes. One is that, as the child is very much emaciated, and there being little fat, the veins are not covered up. Another reason is that the veins are distended. I think, in this case, the condition of the veins is not due altogether to the emaciation. There is a chronic venous congestion, which, taken in connection with the increased size of the head, which has been noted by actual measurement, would point to the fact that there is something distending the head and pressing out the bones. In fact, we have evidence of effusion taking place within the skull, producing pressure and expanding the head on all sides. Although this distention is not very marked, still it is sufficiently so to give you an idea of the appearance of a hydrocephalic head. Hydrocephalus, in these cases, is due, in all probability, to obstruction to the return of the venous circulation, especially at the base of the brain. In many cases it is due to thickening of the membranes at the base of the brain, which is the result of chronic meningitis, brought about, possibly, by tubercular deposit in the course of the small radicles of the arteries. This is usually the seat in which these deposits occur in children. Interference in the circulation of the veins then takes place, with congestion and consequent effusion. This effusion is generally found at the base of the brain and in the ventricles.

There is not present in this case, as might be expected, marked protrusion of the fontanels. The fontanels have not yet closed. They are not depressed, as they were at first, as a result of the anæmia. The anterior fontanel is level with the bones of the skull; it still pulsates, but it does not bulge as in a case of marked effusion. In cases where hydrocephalus begins early, before the closure of the fontanels, we should have marked bulging if the effusion came on rapidly. This child's head does not seem to be growing in size now. The probability is that this condition is a part of the general

disturbance of the circulation and general anæmia, and that we have no real hydrocephalic condition.

Possibly syphilitic gummata have been deposited upon the radicals of the vascular system of the pia mater at the base of the brain, forming what to the eye would appear as a clouding of the surface. The effusion resulting, meeting with the least resistance from the unossified sutures and open fontanels, would gradually increase the size of the head and give it this shape.

Do not confound this condition with what is known as hydrocephaloid disease, or spurious hydrocephalus, a condition of affairs found usually in the exhausting diarrhœas of children, and called Marshall Hall's Disease. That is exactly an opposite condition from that which is present here. In the one there are symptoms of anæmia of the brain, produced by the exhausting discharges; in the other there are symptoms of anæmia of the brain, produced by obstruction of the circulation. Both are due to anæmia of the brain; in the one due to the exhausting discharges from the bowels, as in cases of cholera infantum and enterocolitis; in the other due to some interference of the circulation, as from basilar meningitis; as a result effusion takes place, and anæmia follows. The anæmia results not only from the interference with the circulation, but also from the pressure of the effusion. The symptoms in the two would be much the same. In the hydrocephaloid condition there is depressed fontanel, pallor, and diarrhœa. Where effusion is due to obstruction of the circulation, there is a bulging or a level fontanel.

This case would represent a case of true hydrocephalus,—*i.e.*, a condition where effusion has taken place within, and as a consequence there is venous stasis occurring in the brain as a result of the pressure and as a result of the interference with the arterial supply.

Suppose this child exhibited very marked evidences of rickets, what would be the result? So-called rickety bones do not contain the normal amount of calcareous matter, and as a consequence they are softer than natural. In these cases the sutures do not unite until late. If, in such a case, effusion take place within the cranium, it would produce separation of the bones and give the peculiar shaped head which is diagnostic.

There is another variety of syphilitic rickets affecting the skull, the so-called cranio-tabes, in which the syphilitic virus has prevented ossification in fœtal life. In such skulls the points of ossification are seen; the rest of the skull is composed of membranes only and bony deposit in striations.

There is another form of rickets that comes on in children of three or four months as an acute febrile affection, with inflammatory congestion of the bone-marrow, especially attacking the long bones at their extremities. It runs a definite course and terminates in more or less deformity of the skeleton, with the formation of ivory-like bone, more or less curved in accordance with the strains placed upon it during the first or soft stage by pressure or muscular tension. That disease I believe to be a neurosis.

We shall continue the treatment which has already been adopted. We shall add to it one remedy which I think will be valuable. We shall give small doses of nux vomica, in order to strengthen the heart's action and increase the force of the circulation. The cod-liver-oil emulsion and the quinine by suppository will be continued. We will also begin with iodide of potassium in half-grain and gradually-increasing doses with the milk. The diet now consists of condensed milk (I greatly prefer *peptonized* milk) and arrow-root, but as the child grows stronger it would be well to put it upon stronger food, as, for instance, oatmeal gruel. This will supply the phosphates, which are important in the treatment. This should be well cooked and made thin, given twice a day. It is important in these cases not only to order food which is theoretically the proper thing, but it is important to see that this is digested. There is no use giving oatmeal if it be not digested, absorbed, and assimilated. The starchy elements have to be converted into grape-sugar. This is done more particularly by the ferment of the pancreas. It is therefore desirable to give the meal in such a form that it can be readily acted upon by the digestive juices. In England a small quantity of malt is often added to the meal, the action of the malt diastase being to convert the starch into grape-sugar. This principle has been adopted in Liebig's food. In some preparations malted grain is incorporated with various forms

of meal, so that when the mixture enters the bowels it can be digested and the starch converted into glucose. Mellin's food is made on this principle, and is probably one of the best in the market. Horlick's food also is made in this way.

We shall put this child on small quantities of oatmeal, giving it at first once a day, well boiled, and with very little sugar added, so as not to give rise to lactic acid. While this is given, its effects upon the bowels will be watched.

I wish you to bear in mind that in this case the instructive point is in regard to the temperature. If this child's temperature had gone up every evening to 101° or 102°, or there had been evident hectic, the prognosis would have been unfavorable; but, as the child's temperature has remained normal, although the other symptoms were very severe, the chances are that it will pull through.

Case II.—Mulatto infant, aged one year. Brought in the house by its mother, who is a married woman with several other healthy children.

This child is in much the same condition as the first one was a few weeks ago. There are, however, some points in the case which, in contrast with the case we have just seen, require special study. It is still very sick, though much better than a week ago. Its mother, who is a hard-working woman, placed the child out to nurse, and it has, without her care, gotten into the condition which you see. As it is now quiet, I shall make the physical examination of the chest. There is no difference in the percussion-note of the two sides. One week ago the right side posteriorly showed marked percussion-dulness. This dulness remained for two or three days. To day it has almost entirely disappeared. We lose even the liver-dulness. This is due to the immense distention of the colon or stomach with gas. In cases so emaciated and run down as is this child, there is usually decomposition of the mucus in the alimentary canal, and this gives rise to a large amount of gas, which distends the stomach and bowels, filling up the abdominal cavity and encroaching upon the thorax.

In rickety children this is a serious matter, and, by distending the lower portion of the thorax, leads to the peculiar hour-glass shape which is so characteristic. Protracted distention of the stomach by gas may, and frequently does, cause a permanent dilatation of the stomach in children, which is obscure and difficult to treat, and may be fatal. Excessive tympany, succussion, and indigestion are the frequent symptoms.

The child breathes very naturally, both sides seeming to expand alike. There is no sudden jerk in the respiratory movement, and there seems to be no pain connected with the movements of the chest. No pain was caused by percussion. The temperature has not been elevated. There is no vomiting. Up to two days ago there was some cough, but since then it has disappeared. Its appetite is good, and it does not fret much during the day.

When I first saw this child, I found from its history that it had been neglected. It was extremely emaciated. It, however, presented no specially prominent symptom except the cough. On percussion, I found dulness of the whole right side of the back. On auscultation, exaggerated, puerile breathing was heard above, but feeble breathing at the lower parts. The voice did not seem to be directly beneath the ear, as it would have been if conducted by a solidified lung. There was therefore no pneumonia. Placing both hands on the chest, I found diminished expansion on the right side. This dulness on percussion amounted to flatness. It was not the dulness of pneumonia. I thought that, in all probability, it was due to fluid effusion, which, when it occurs in children who are run down, is usually semi-plastic in character. It is frequently found post mortem when it had not been suspected before death. I do not recall having ever seen a child thinner than was this one when it came in.

In this case the treatment was an energetic one of tonics and counter-irritation. We also used cotton wadding around the chest, for the purpose of keeping the child warm. Counter-irritation was especially applied over the portion of the chest where we found dulness on percussion. The child was given cod-liver oil, and it was rubbed with it. The result is that the deposit has entirely cleared up in the course of a few days. The effusion has disappeared, and at present the child presents no evident pulmonary trouble. The cough has also almost entirely disappeared. The temperature in this case is also normal. In this case I have totally failed to get any evidences of syphilis.

These cases are instructive ones. If you are called to such a case, you should see that the child is kept warm, that the circulation is increased, that the organs of digestion are encouraged, and that the excretory organs are active, so as to carry off the waste. If the case is treated in this way, gradual improvement will be noted from day to day. This case should get well if the treatment is carefully carried out. The treatment is similar to that adopted in the previous case. In a few days it will be well to give oatmeal.

An important item in these cases is to keep the skin active. Tepid baths of rock-salt water are of importance. The skin is rubbed twice a day with cod-liver oil. It is therefore important to see that the skin is thoroughly cleansed, in order that its function, which is to a certain extent supplementary to that of the kidneys, be not impaired.

ORIGINAL COMMUNICATIONS.

INFECTIOUS SORE THROAT.

BY HUGO ENGEL, A.M., M.D.,

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SOME authors contend that acute tonsillitis and diphtheria are caused by one and the same poison; others insist upon different pathogenic elements causing both diseases. It is possible that both views are correct, assuming that by acute tonsillitis two distinct maladies may be meant.

In my opinion there are two kinds of acute sore throat,—the catarrhal and the infectious. In the first abscess-formation in one or both tonsils is a common occurrence, while in the last pus never forms. Though the inflammation may be intense in the former, the mucous membrane affected never assumes the angry and dark-red, shiny hue which is usually met with, at least in severer and typical cases of the latter. Further, while in both the tongue is apt to be heavily coated, in the catarrhal form, after the coat has been thrown off, the tongue resumes its normal appearance; but in the infectious kind, after the incident mentioned has taken place, the tongue shows the same fiery redness as the throat, it being shiny, near to its point greatly resembling the strawberry-tongue of scarlatina, and evincing a tendency to dryness. Then, in this variety, the patient suffers from the beginning from a peculiar weakness and lassitude, phenomena which are never observed in the catarrhal or simple sore throat, be it acute and intense or not.

But what still more indicates their different nature is the following. The infectious sore throat frequently makes its appearance in a house where one or more other members of the family are affected with diphtheria; the same rheumatic symptoms and the same peculiar eruptions that characterize many cases of diphtheria also accompany the infectious tonsillitis, and we occasionally find albumen in the urine,—a fact which to my knowledge has never been observed in simple sore throat. But what struck me as most peculiar was the frequency with which women are attacked by an infectious angina, complicated by rheumatic symptoms and a skin eruption. It was this observation which induced me to write these lines.

As is probably the case in every large town of our Northern and Middle States, diphtheria and sore throat are prevalent in our city during the autumn months, more so than during the spring or at any other time of the year. My attention having been drawn but recently to the infectious character of angina cynanche, I refer in the following to my experience only during the past two years.

In the autumn of 1883 two, and this fall three, cases of the disease which I am about to describe came under my observation, either in my own practice or in that of medical friends calling me in consultation. These five cases happened in women, and, while I cannot contend that the malady is met with only in the female sex, in an experience of twenty years—if my memory is correct—I have not seen a single instance where a male person had suffered from it, and several colleagues, enjoying an extensive practice, on reflection admitted that they had made the same observation, since they came to think of it. To give rise to no doubt, I premise that by saying the disease has been noticed only in females I do not mean the infectious angina in general, but the peculiar form under which it made its appearance.

I shall not tire the reader with reporting the history of all five cases, but select only that of the most typical. October

16 of this year a lady, the mother of a large family, came under my charge. She was suffering from a mild case of pharyngeal diphtheria. On the 19th of the same month her eldest son was attacked by the disease in a graver form; on the evening of the same day his seven-year-old brother contracted a severe sore throat, without evincing at any time, though the parts were daily inspected with special care, the least sign of a false membrane; and on the 21st his two-year-old sister had the first symptom of the disease in its worst form,—nasal diphtheria. The last patient died on the ninth day of her illness, October 30, under all the symptoms of septic poisoning. No other member of this family became infected, and the patients all recovered except the little girl mentioned.

The day before the death of the child, on October 29, one of the two servant-girls, Lizzie D., æt. 20, commenced to complain of sore throat. I saw her in the afternoon, when she told me that the evening before, near six o'clock, she had been feeling chilly, and immediately after noticed a pain on swallowing. The pain she referred to the right side of her pharynx. During the night she had slept but little, having suffered "from a burning fever, great thirst, and much pain in her throat and neck." In the morning some amelioration of the symptoms had set in, the fever having left her to a great extent, and the pain having lessened in severity, and the thirst ceased. But soon after dinner the symptoms had resumed their former vigor.

On examination, I found the whole pharynx, especially the soft palate, uvula, and tonsils, greatly inflamed. They had an angry, dark-red, shiny look. But nowhere was any diphtheritic patch to be discovered. Her tongue was coated with a heavy, yellowish, cream-like fur. Temperature, 104.1°; pulse, 122. The skin over her neck, chest, abdomen, back, and arms was nearly of a uniform deep redness, about a shade darker than is generally observed in scarlatina, and in this redness a papular eruption resembling that of morbilli was plainly visible and sufficiently developed to give to the touch the sensation of roughness. Her face showed the same red tint, but without the papules; the palms of her hands were in the same condition, while their dorsal surface evinced the normal skin. Exactly at the crest of the ilium all eruption ceased, her lower extremities being completely free from any change in the normal appearance of the skin.

During the next two days these symptoms continued. Usually at 10 A.M., at 5 and near 8 P.M., the temperature, which during the rest of the time did not exceed 101.2°, suddenly ascended, reaching within ten or fifteen minutes the height of 104.4°, and remaining at that height for about one hour, though sometimes nearly two hours and more. Generally, before the increase of temperature set in, the patient complained of feeling chilly. During these afebrile hours the skin appeared normal, the pulse was lowered in its frequency to 90, and all pain ceased or nearly did so. During the same time the patient felt only weak, and evinced scarcely any other symptom of general malaise but that "her bones ached her." She felt inclined to talk, and had a desire for food, though she vomited almost everything which she swallowed. But the moment the increase of temperature commenced the erythema and the eruption at once made their reappearance, the pain in the throat and nape of the neck returned, the patient complained of the dryness in her throat, became listless, and scarcely replied to any question, moaning all the time; she suffered from severe thirst, and her pulse beat at the rate of 124 per minute.

On account of the heavy coating of the tongue, the nausea, and the vomiting, and also because experience had proved to me that vomiting, if induced by medicine, generally accelerates the cure of acute tonsillitis, I gave her on the second day a sufficient dose of tartar emetic to cause emesis. The next morning the tongue was clean, but evinced the same fiery redness as the throat, and at its point for about one-fourth of its length it had the so-called strawberry appearance, while at about its middle it felt dry. The other symptoms continued unabated, only the vomiting ceasing. But on the fourth day of her illness the picture of the malady somewhat changed.

The fever, still appearing at stated intervals, now lasted but half an hour, and was then followed by the most profuse perspiration, not acid in character. The patient, besides, commenced to complain of the most excruciating pains in her [illegible]

shoulder. On my inquiry, I found that there had been no urine excreted for the last twenty-four hours. I therefore added to the other treatment, soon to be mentioned, a teaspoonful of the infusum digitalis every fourth hour. The next morning she again micturated, but the urine contained considerable albumen, no blood, but a few hyaline casts. I will here mention that two days later the excretion of the urine was normal and free from any morbid contents.

During all this time the patient had slept very little, and taken but fluid nourishment in very moderate quantity. Her bowels had to be moved by laxatives, but they responded very readily to their action. One-third of a bottle of a solution of citrate of magnesia, for instance, was followed by four loose stools of a greenish color and fetid odor. There was no pain in the right iliac fossa, no gurgling sound, and no tympanitis whatever. When the symptoms enumerated had continued for several days, a change for the better set in. That was on the seventh day of the illness. Even during the febrile period the temperature increased but to 102°, and on the eighth day to 100°; the dryness of the throat left her; the pain in the shoulder gradually ceased, the perspiration became less profuse, the skin-eruption disappeared, and the throat and tongue regained their normal hue, though rather slowly. By the twelfth day all morbid symptoms had vanished, and the patient entered upon a rapid convalescence, though, considering the shortness of the malady and its character, she was emaciated to a high degree and remarkably feeble during the first week of her recovery. For nearly the whole of this week the tongue evinced some indication of its former morbid condition by its darker tint. When I visited the patient for the last time, at the end of the third week, she informed me that she knew almost nothing of what happened during the first four or five days of her illness, and that she only remembered that it had seemed to her as if she were in a strange room, lying upon the shelf of a closet instead of in the bed, and that she had tried to collect her thoughts, but that she had not succeeded, until she one day had a clear idea of herself and where she was. That must have been on the fifth or sixth day of her sickness, during an afebrile period.

I have mentioned this incident as indicating the serious nature of the complaint, for such aberrations of the mind happen only in the graver kinds of acute infectious diseases. With very little alteration, the above is the history of all the cases. Only in one instance, also that of a young girl, æt. 17, I discovered a small whitish patch on the left tonsil. The false membrane had about the size of a silver three-cent piece, looked much whiter and was much thinner than a diphtheritic patch. It disappeared within thirty-six hours. The fever and perspiration at certain hours of the day, the skin-eruption, the rheumatic pains, the affection of one shoulder-joint, the vomiting, coated tongue, and sore throat, and the feeling of debility and lassitude, were present in all cases, varying but in degree. As the disease lasted in all the same length of time, we have in this self-limitation another proof of the infectious character of the disease. But that an exposure to cold and wet seems to exert at least a predisposing influence I cannot doubt from the history of the cases. Every patient ascribed the disease to catching cold, and dated its commencement from an occurrence of that kind. Lizzie D., though diphtheria had been in the house in which she lived for two weeks, and though she had been in frequent and prolonged contact with every victim of it during that time, had not contracted the malady until, on the day before it broke out on her,—the weather being cold, chilly, and somewhat damp,—she had been washing windows and walking over wet places with torn shoes, and been doing so for several hours, so that her stockings were completely soaked when she finished her work. A somewhat similar element existed in each case.

That peculiar eruptions frequently accompany diphtheria and sore throat has often been reported. But recently Dr. C. Boeck published two such cases.* In one, eleven days after the beginning of the sore throat, and while the morbid symptoms of it had not yet totally disappeared, a characteristic multiform erythema set in, and, in a second case, one month (!) after the commencement of a follicular angina, and while the debility and lassitude, which so frequently endure for a long time after this disease (!), still continued, rheumatic

* Vierteljahrsschrift f. Derm. und Syphilis, 1884, p. 481.

affections accompanied by *purpura rheumatica* complicated the original malady. Though debility and lassitude, at least in my opinion, very seldom last so long in simple sore throat as Dr. Boeck states, I agree with him in his explanation of the accompanying phenomena. He believes that the accidental symptoms and the inflammation of the throat stand in causal connection to each other, and the numerous nerve-fibres of the pharynx, intimately connected as they are with the sympathetic, seem to him of special importance in this respect.

Sore throat, though more of a chronic character, is met with in weakened conditions of the heart, as in fatty degeneration and dilatation of the organ (probably due here to venous stasis); syphilis may give rise to very severe forms of acute angina, and in rheumatism tonsillitis is not a rare complication, while in scarlatina it is the rule, in rubeola not the exception, and in morbilli but seldom completely absent. There are still other diseases, too numerous to mention, in which a sore throat is a common occurrence. There, further, is a difference between the catarrhal angina which develops from a catarrhal inflammation of the Schneiderian mucous membrane of the nose, travelling downwards, and the form where the inflammation has its acute beginning in the pharynx and usually stays there. This last variety is what I call the simple acute sore throat. An individual suffering from it, when young and vigorous, will often continue to attend to his daily affairs, no matter how annoying and painful the ailment to him; but in a case of infectious sore throat the person attacked by it is listless and gloomy; he does not care to perform any labor, and, besides, such a patient is too weak from the very onset of the disease to follow his usual occupation. He is forced to seek his bed; while in the case of simple angina the individual, if a young and vigorous man, can rarely be persuaded to stay in the room.

If it be true that the numerous nerve-fibre connections of the pharynx with the sympathetic occasion the rheumatic symptoms and the skin-eruptions, we probably have an explanation of the fact that especially women are attacked by the form of infectious sore throat which is complicated by the two phenomena mentioned. Had I seen but one or two cases of this kind in women, or had the picture of the malady not been so uniform in its course and the grouping of its symptoms as happened in my five cases, I might have considered the occurrence an accidental one, for, though the number of patients is but very small, it is peculiar that they all were women. A physician meeting with such a case for the first time will be greatly puzzled, and especially young practitioners, still under the influence of the description which their teacher gave them of typical cases of disease, will either change their diagnosis several times or confess their inability to arrive at a definite conclusion.

A far greater number of cases than mine will have to be observed before we can say that the infectious sore throat always affects women in the manner described, or that it attacks all persons, whether male or female, adults or children, in the same way. Of one fact I am convinced, that there are two kinds of what we commonly call acute sore throat, the simple sore throat never showing the rheumatic symptoms confined to the larger joints, the skin-eruption, the ups and downs of temperature, the profuse perspiration, and the fiery, glazed tongue, while the infectious angina has these complications, as a rule, in women, but never gives rise to abscess-formation. But, while I think I am the first to insist upon this distinction between the two varieties, I am well aware of the fact that, without having in mind the possibility of the existence of the other kind, many authors have recently expressed the view that acute angina is caused by the same poison as diphtheria and is but a milder form of it. To this opinion I am not prepared to subscribe; for why is it that we have so very mild forms of pharyngeal diphtheria that they are discovered only, as it were, by accident, where the patient himself is not aware of its existence, and where the inspection of the throat reveals a slight redness and a very insignificant patch of false membrane? Still, I admit appearances are suspicious, and I have myself attended a case of sore throat in a family where the second patient, taken sick a day or two later and sleeping in the same bed with the individual suffering from the angina, was attacked by diphtheria. From recent investigations of Cohnheim and others, we know that several causes (for instance, emboli and

thrombi) may give rise to the formation of a false membrane on the mucous membrane of the throat, even simple infiltration of the submucous tissue (probably by pressure on the vessels) leading to it. The inoculation, therefore, of the mucus from such a sore throat, and its being followed by the formation of a false membrane, would be no definite proof that both diseases—infectious angina and diphtheria—are caused by the same pathogenic element. It is to be hoped that bacteriology will determine the question.

It cannot be said that in those cases which I consider as instances of infectious angina, a diphtheritic patch would be discovered if carefully looked for. In two of my cases (that of Lizzie D. included) I made the same objection to my own reasoning, and instituted a rhinoscopic examination, notwithstanding the difficulty attending it under the circumstances. Such patients cannot open the mouth widely enough, but by using a hook somewhat like Voltolini's palate-hook* I obtained a sufficient view of the posterior nares, the septum, and of the entrance to the Eustachian tube, to enable me to say for certain that a false membrane was nowhere deposited.

I do not think that a coaffection of the kidneys ever appears in simple acute angina; but I confess that I have commenced only this year to examine the urine of such cases. I had but two in my private practice, and in consultation I have seen none, as a second physician is rarely called in in acute tonsillitis, except in such complicated cases as those of the infectious form, when the eruption easily confuses the physician. In these two cases I found no albumen; besides, in this disease the excretion of the urine is probably never interfered with, while in the infectious variety the suppression of urine for at least twenty-four hours seems to be common. A fact like the last, doubtless, at once draws our attention to the function of the kidneys. It may be that this complication, should it be so uniform an occurrence as happened in my cases, will form an important factor in the differential diagnosis of the two diseases, even should it be demonstrated that the infectious angina attacks men with the same symptoms and complications as women. I may here mention that two of my patients menstruated during their illness. Lizzie D. did so on the second or third day, and in the other case the menses also appeared on the third day. In these two the discharge came at the usual time, so that the disease does not seem to exert any influence upon the menses.

Regarding prognosis, I can only report that my patients recovered without any untoward symptom. In some convalescence progressed less rapidly and left the patient weak for a longer time, but in the third week they generally were once more able to resume their customary occupation.

With reference to treatment, I always administer an emetic in the beginning. As long as vomiting lasts and the tongue appears coated, I give as little nourishment as possible. All my patients were young and vigorous, so that, instead of stimulating, I had more than once the idea of bleeding the patient, and would have done so, on account of the active inflammation, had not the feeling of general debility which attends these cases restrained me. This period usually continues to the third day, when, the irritability of the stomach having ceased, I let them take fluid, but nutritious, food, returning to solid aliment as soon as the condition of the pharynx permits its being swallowed without injury to the inflamed parts. I further advise the patient to use the following gargle every ten or fifteen minutes:

℞ Acid. salicylic., ʒj;
Acid. carbolic., ♏xxiv;
Sodii borat., gr. lxx;
Glycerin., fʒj;
Aq. destillat., fʒxj. M.
Sig.—Use as gargle.

Internally I order a teaspoonful, in half a tumblerful of water, of this medicine:

℞ Quininæ hydrochlorat., gr. xxxvi;
Tinct. ferri chlorid., fʒj;
Acid. muriat. dilut., fʒij;
Tinct. cardamom. comp.,
Glycerin.,
Syrup. aurant. cortic, āā q. s. ad fʒiij. M.

This is taken every three or four hours until the more moist appearance of the tongue and the general condition of the patient indicate amelioration of the symptoms, when the size and the frequency of the doses are rapidly diminished. As soon as the first indication of disturbance of the urinary function sets in, I prescribe

* Die Rhinoscopie und Pharyngoscopie.

a teaspoonful of infusum digitalis to be taken every four hours. When the secretion has been re-established, I still continue for one day longer the same dose; for another day the patient is directed to take it but three times daily, and then this medicine is stopped, having achieved its purpose. If the pain in the neck or in the shoulder be very severe, I have found the best result from this liniment:

℞ Chloral. hydrat., ℥j;
Camphoræ, ℥ss;
Ol. amygdal., f℥j. M.

Sig.—To be applied with a camel's-hair brush to the painful parts, the application to be renewed on return of pain.

Besides paying attention to the bowels and employing general measures, as regular feeding, cooling drinks, sponging of the body several times daily, etc., the above contains the whole treatment. For the sleeplessness commonly met with in the beginning I have ceased to prescribe, as experience has taught me that the patients feel better, regain sooner their natural sleep, and recover more quickly, when no hypnotic whatever is employed.

507 Franklin Street, Philadelphia, Pa.

THE LEGAL CONTROL OF MEDICAL PRACTICE BY A STATE EXAMINATION.

BY JOHN B. ROBERTS, M.D.,

Professor of Anatomy and Surgery in the Philadelphia Polyclinic.

Read before the Philadelphia Medical Jurisprudence Society, October 14, 1884.

IT is my intention this evening to briefly review the advantages that would accrue to the public and the medical profession by the enactment of a law placing the control of medical practice in the hands of a State Board of Examiners. As is known to many of you, a person who desires to practise medicine in Germany must pass a governmental examination. The students study in universities and take degrees, but such degrees do not confer the right to enter upon practice. The health and lives of the citizens of the empire are believed too valuable to be imperilled by the acts of ignorant physicians. Hence, although the universities themselves are under the supervision of the State, the candidate for practice must, in addition to his university examination for a degree, pass a governmental examination for license to follow professional work among the people of his vicinity. He is not a legally-qualified practitioner until this is accomplished.

The recklessness with which medical legislation has been neglected in this State will be apparent when I say that the medical schools are under no State or Federal supervision whatever, but have entire control of the time and character of studies required from the intending practitioner, examine him upon the same, and confer the medical degree, which is at once accepted by the authorities as evidence of sufficient knowledge and skill to entitle the possessor to practise medicine, surgery, and obstetrics in the community. Still further to encourage wholesale and unrestrained manufacture of physicians, the "doctor-manufactories" are, I believe, even exempt from taxation.

Until the year 1881 there existed in this commonwealth no law whatever regulating medical practice. At that time the law to provide for the registration of all practitioners of medicine and surgery was enacted by the General Assembly of Pennsylvania. It effected much good, and was a distinct step forward, though it has, among other minor defects, the weakness that the possession of a genuine diploma is taken as evidence of knowledge.

As long as the medical schools of the United States are dependent for prosperity upon the number of fees received from pupils, and as long as examinations by the faculties who receive these fees are the sole test of skill, a diploma, even from the highest-grade institution, carries with it little value as a diagnostic proof of professional learning. The old Latin proverb has it, "Caveat emptor" ("Let the buyer beware"). I say, "Caveat æger" ("Let the sick man beware"), if he believe that the fact of graduation from a renowned college confers intelligence and skill. The placard "No reasonable offer declined" usually tells the buyer that inferior quality of goods is to be expected. Would that many colleges had the honesty to display a similar escutcheon over their portals, reading, "No reasonable ignorance rejected!"

The step I advocate to-night is the creation of a Board of Medical Examiners, under State jurisdiction, who shall examine all persons desiring to enter upon practice in this State after January 1, 1886, without

regard to when, where, or how they obtained medical education. If such an examination by non-interested persons show the proper qualifications, the candidate is to be furnished with a certificate, and is then registered in the Prothonotary's office as heretofore. Let the medical schools teach, examine, and grant degrees as at present, but let no one practise in this State who has not been examined by those who have no interest in passing or rejecting him. In other words, merely substitute for the diploma the certificate of the State Examining Board as the requisite of registration.

The greatest advantage derived from such a law would be the protection of the public health from ignorant physicians. Bear in mind that I refer now not to Indian medicine-men, negro herb-doctors, and other charlatans, but to ignorant physicians, graduates of recognized and reputable schools of the United States and other countries,—such as are duly armed with beautifully-engraved diplomas signed by leaders of the profession, and therefore more dangerous to the community than a whole tribe of Indian "pow-wow-ers." These, indeed, assume the virtue of knowledge, though they have it not.

The United States government long ago adopted a similar plan of examining candidates for its army and navy medical services; so that at the present time its soldiers and sailors, even in distant territories and seas, have an average benefit of better-educated physicians than citizens of New York, Philadelphia, or Boston. An army or navy surgeon receives his education in any school, but he enters the Federal service only after an examination by a board who had nothing to do with teaching him, and who have no pecuniary interest in passing ignorant candidates.

A second advantage of the plan advocated is the improvement in registration that would take place. By the present law, persons who were in continuous practice for ten years prior to its enactment were allowed to register without diploma and without examination. Such persons, if any such still reside in the State unregistered, or if any new ones come into the State, would by the new law be required to show their qualifications for practice by examination. This would be a gain, as it would exclude a certain proportion of uneducated persons. Again, Section 4 of the Registration Law requires persons coming into this State with diplomas from other countries or States "to lay the same before the faculty of one of the medical colleges or universities of this commonwealth for inspection, and the faculty, being satisfied as to the qualifications of the applicant and the genuineness of the diploma, shall direct the dean of the faculty to endorse the same; after which such person shall be allowed to register." This imposes a considerable amount of work upon the medical schools, which, doubtless, would gladly be excused from this unpaid and uncongenial labor; for to reject the diploma or graduate of a neighboring institution lays the school open to unjust criticism. Moreover, the law does not state that the said colleges should be schools for undergraduates.

Some months ago, application was made to me, as Secretary of the Philadelphia Polyclinic and College for Graduates in Medicine, for certification of a man's qualifications for registration under this act. Undoubtedly post-graduate medical schools were not intended by the law, and I declined to act in the matter. Moreover, there are loopholes in the Registration Law by which punishment for practising illegally can be escaped. A notable case occurred six or seven months ago in Clearfield County, and is mentioned in an editorial published in the *Polyclinic* for March, 1884.

An exceedingly important result of the establishment of a State Examining Board in Pennsylvania would be the elevation of the standard of education in the medical colleges of the country. Many citizens and prospective citizens of the Keystone State study in the colleges of New York, Maryland, Ohio, Michigan, and other States. As soon as it is known that no one can practise in this wealthy commonwealth unless he passes the State examination, such persons will study in the highest-grade schools, and in those whose graduates show the smallest percentage of failures before the Pennsylvania Examining Board. Hence, if our schools are the best equipped and supply the best education, men will not pay their money to the teachers, boarding-house-keepers, and merchants of other States, but will attend our own schools, and thus increase the business prosperity of Pennsylvania. The

competition of low-grade colleges, whether in this or neighboring States, would not then tend to paralyze the efforts of institutions of high educational standard. There would be no longer a premium offered for quick graduation after two years' study and a five minutes' oral examination in each of seven branches.

Another indirect advantage would be this: that students could study in several institutions, and thus gain the benefit of hearing the foremost teachers of various schools, instead of being cognizant with the precepts of but one faculty. The former method of study is certainly the most elevating, as it broadens professional knowledge.

The division of labor resulting from examinations being held by a non-teaching board, having committees in different parts of the State, would make it possible to hold written and manipulative, as well as oral, examinations, and thus do better justice to candidates than is possible by an oral examination alone. Again, the examinations not being held all at one time of year would further accommodate intending practitioners and lessen the labor of the examiners. As it is now, the college faculties, with great inconvenience to themselves and often with injustice to the pupils, hurry through the examination of several hundred students in a few days. A gentleman now dead, who was for years a professor in a large medical school, once told me of a case where a man who failed to pass his examination was actually graduated because of a clerical error that occurred in the hurry of commencement time. Neither of us know how many people owed their deaths to that accidental physician. Bright men may have been neglected by similar errors made in hasty examinations. The State Board examination would be conducted leisurely, and, being partly written, would show by the records whether a man was unjustly rejected. He would also have the right to a public appeal from the report of the board, which now he has not. The college examination is, as it should be, under the present arrangement, the private business of a private corporation, and therefore sealed from public inspection.

Another advantage which deserves consideration is the power of revoking a man's license to practise which would be possible if a State Examination Board were instituted. His diploma cannot and could not be taken away, but his certificate of knowledge, character, etc., could be cancelled or withdrawn by the Board if he were convicted of criminal ignorance, malpractice or similar crime.

The last reason for advocating the law is cogent, but, to my mind, deserves little attention, because it is a selfish one, which should influence us much less than those previously discussed. Such an examination would weed out and keep out of the profession those persons who, though ignorant of medical science, accept professional duties and emoluments, and thus increase the difficulty of an educated physician's gaining a livelihood. There are, undoubtedly, too many physicians for the needs of the closely-settled districts. Fewer doctors and better ones would be a boon to most sections of the State. The State examination would effect both objects. The legal profession has, I believe, certain restrictions to indiscriminate admission to the bar. Why should not the medical profession have some similar protection?

Dr. Isaac Ashe speaks of districts in Scotland where sixpenny charges are made by physicians, and says he knows of an English town of fifty thousand inhabitants where one shilling charges are made for medical advice. ("Medical Politics," The Carmichael Prize Essay for 1873, page 33.) He quotes from the *Medical Press and Circular* of September 11, 1872, page 216, the following charges adopted by a practitioner of thirty years' experience: "Midwifery, two shillings and sixpence; advice, sixpence; consultations, one shilling." Is there a barrister in England or an attorney-at-law in Pennsylvania who accepts such insignificant fees for professional services? Yet the position of the medical profession in Pennsylvania is little better than that mentioned in England. The poor estimate put upon medical services is due to the overcrowded state of the profession and the inferior quality of much medical work, both of which conditions would steadily decrease after the initiation of a State examination.

That the medical profession desires the adoption of a State Examining Board may be assumed from the recent action of the Philadelphia County Medical Society. At a meeting of the present month, in which this and kindred educational topics were

discussed by college professors and practitioners, both general and special, the following resolutions were offered. After postponement for printing and circulation, they were adopted almost unanimously:

Resolved, That the Philadelphia County Medical Society believes that the status of the medical profession of this State will be elevated by the establishment of a non-teaching Board of Medical Examiners, whose certificate shall be the only one accepted by the prothonotary's office for physicians registering after January, 1886.

Resolved, That the other county societies of this State be requested to advocate the establishment of such a board at the next meeting of the State Society, and to discuss the matter prior to that meeting with the members of the General Assembly resident in their counties.

Resolved, That the Corresponding Secretary be directed to transmit a copy of these resolutions to the Secretary of each county society, with the request that immediate action be taken and reported to this Society.

Resolved, That a committee be appointed to draft a law creating a State Board of Examiners, for the examination of all persons for license to practise medicine, the said law to be presented at the next meeting of the Medical Society of Pennsylvania by the Philadelphia delegates to that meeting.

Having spoken of the advantageous action of a State Examining Board, I must hastily consider the objections that will be raised to its enactment.

It will be said that physicians living outside of this State, but near its border, are often called to attend patients in Pennsylvania. Very well; let them be examined by the Pennsylvania Board and register in the county of this State nearest their residences. Shall a physician of New Jersey, Maryland, Delaware, New York, or Ohio practise continuously in Pennsylvania without being subjected to the same examination as residents of this State? Certainly not. Those, however, who come into the State as consultants with duly licensed practitioners of this State should, of course, be excused from the State examination. So should dentists who do not practise medicine, whether residents or non-residents of the State. In the same manner midwives, who attend the very poor in cases of confinement, should be exempt from professional examination, though they undoubtedly should be registered and give some evidence of obstetric knowledge.

A physician changing his residence within the State would merely be required to register in his new locality, but would have to pass no second examination. Nor should those now legally registered and practising be required to pass the State examination.

It will be urged as an objection that there are physicians who desire to practise special systems of medicine, and that such a State examination would exclude these from practice. Not at all. Let the board examine all candidates on anatomy, physiology, pathology, hygiene, surgery, obstetrics, chemistry, and materia medica only, omitting theories of medical practice and therapeutics entirely from the schedule.

I have thus advocated, Mr. President and gentlemen, a measure which will, I believe, add to the wealth and prosperity of the State of Pennsylvania and elevate the profession of medicine, for whatever elevates the latter must increase the former. The wealth of a community is the health and lives of its citizens. Every useful life saved, every illness shortened, adds to the public treasury. The educated physician may do both, the ignorant physician does neither. I pray you to aid in cultivating the one and eradicating the other.

REPORT ON LARYNGOLOGY AND DISEASES OF THE NOSE.

BY CARL SEILER, M.D.

So much interest has been shown by the general practitioner in the success of the new treatment of hay-fever and rose-cold by the galvano-cautery, that a few words will not be unwelcome to the readers of the *Times*, although the subject is not a very novel one.

As is well known, hay-fever, as a disease very prevalent in America and England, has received a great deal of attention, and many papers and treatises have been written, in which almost exclusively the pollen-grains of this, that, or the other plant have been named as the cause of the trouble. A notable exception is found in the papers by Helmholtz and Salisbury, who ascribe the disease to vibrios and animalcules, and recommend solutions of quinine as a local application. The other authors, up to within a very few years ago, all recommended the removal of the patient during

the time of the attack to a locality which was free from the emanations of the particular plant affecting the patient. There are a few whose observations led them to believe that the hay-fever attacks were manifestations of a general nervous disorder, and recommended sea-air and nerve-tonics as the main elements in the treatment.

In 1882, Dr. W. Daly, of Pittsburg, published a record of some cases in which, after removal of nasal obstruction, the usual attack of hay-fever had not come on in the patients operated upon; and in 1883, Dr. J. O. Roe, of Rochester, read a very exhaustive paper on the causation and treatment of hay-fever before the New York State Medical Society, in which he demonstrated that the disease depended upon a peculiar sensitiveness of the mucous membrane of the nose, due in most cases to hypertrophic swelling of the cavernous tissue, but present in others without such evidences of nasal catarrh. Following up his theory, he employed the galvano-cautery knife for the destruction of this hypersensitive mucous membrane, and as a result gave the history of a number of cases cured by this method.

Since then, several other American and German laryngologists have published papers in which they substantiate Dr. Roe's observations as to the initial cause of the disorder, and add to the accumulating evidence of the effectiveness of his method of treatment.

There is, however, a slight difference of opinion as to the time when the application should be made, some claiming that a destruction of the irritated tissue during the attack is quite feasible and will cut short an attack, while most others hold the opinion that the galvano-cautery should be used either before or after the attack.

I have had ample opportunity to test this matter during the past season, and have found that the application of the galvano-cautery to the nasal mucous membrane after the attack had set in rather aggravated the symptoms, and in no way cut the attack short. On the other hand, I found that in those cases in which the treatment was begun before the onset of the disease, the attack was either prevented altogether, or, in a few instances, was greatly modified as to severity of symptoms and duration.

In one instance a single application, made two weeks before the time at which the attack was expected, in a case of twenty years' standing, proved sufficient to prevent any symptom of the disease from making its appearance. As I have frequently reiterated elsewhere, the application is not at all painful if properly made.

Two important subjects were discussed, among others, at the meetings of the Section for Laryngology at the International Medical Congress in Copenhagen,—viz., the use of chromic acid as a caustic in nasal diseases, and the use of inhalations in the treatment of diseases of the upper air-passages.

Dr. Hering, who opened the discussion, said that chromic acid was destined, in his opinion, to set aside galvano-cautery and other caustics, and could be used with great advantage for the removal of hypertrophies and pedicles of polypi. His method of application is to melt a small crystal of the acid to the end of a probe, and to touch with it the tissue to be destroyed, and then wash out the nose with a weak solution of bicarbonate of soda. He claims that the chromic-acid application is less painful and the wound made heals more rapidly than is the case with the galvano-cautery. Most of the gentlemen taking part in the discussion said that they had used chromic acid in the manner described or in concentrated solution (Boeker, of Berlin), but had found that the galvano-cautery was not in danger of being set aside for this reagent. The application of chromic acid in the form of crystals for the destruction of tissue in the upper air-passages is by no means a new departure, but it was used many years ago, and fell into disuse with the advent of the galvano-cautery. Lately, however, as it so often happens in medicine, that a forgotten remedy is again brought to light, this method of cauterization has received renewed attention by laryngologists, and Dr. W. C. Jarvis reported a very interesting case of large papillomatous growth of the larynx removed by repeated applications of chromic acid crystals at the meeting of the American Laryngological Association last spring. At the same meeting, Dr. Donaldson, of Baltimore, read a paper on the removal of nasal polypi by chromic acid. There are undoubtedly cases in which this caustic is preferable to the galvano-cautery, as in

Dr. Jarvis's case, but in most instances the galvano-cautery is preferable, not only on account of the greater facility of its application, but also on account of the freedom from all further destructive action after the knife has been removed.

Dr. Schnitzler, of Vienna, opened the discussion on the inhalation treatment, and expressed it as his opinion that inhalations were particularly useful in diseases of the upper air-passages, but were also valuable where the disease was located in the bronchial tubes and in the lung-tissue, where topical applications could not be made.

In the discussion, Gottstein, of Berlin, declared that inhalation was a method of treatment at once unscientific and often harmful, because the application could not be localized, and because frequently the convergent inhalation was prescribed in cases demanding early topical applications, and thus much valuable time was lost. Schaeffer, of Bremen, expressed the opinion that laryngoscopy would be more universally practised among general practitioners if the convergent inhalation method of medication did not seem to make the use of the laryngeal mirror superfluous.

There is a great deal of truth in the remarks of Gottstein and Schaeffer, for it is a deplorable fact that but too often inhalations of atomized liquids are ordered by the general practitioner without his having made a careful examination of the larynx, and without any reference to the condition of the parts. Nitrate of silver and astringent solutions are thus used indiscriminately. Gottstein, however, goes too far in declaring inhalations irrational, for, as Dr. Beschorner, of Dresden, in the same discussion, remarks, there are cases in which inhalations cannot well be dispensed with,—as, for instance, in diphtheria and in the sore throats of children; and at the same time the forcible inhalation treatment is found a most valuable addition in the treatment of chronic phthisis.

A short time ago, Dr. Bosworth, of New York, read a very interesting and exhaustive paper on the "Three Tonsils," at a meeting of the New York Academy of Medicine, in which he discusses fully the pathology of "quinsy" and the advisability of excision of hypertrophied tonsils. He entertains the view that in quinsy the tissue of the tonsil is not directly involved in the inflammatory process, but that the disease is, in reality, an acute cellulitis of the areolar tissue of the fauces, which later involves the tonsils secondarily. The cause he believes to be rheumatic habit in sixty per cent. of all cases, and the treatment consisting of salicylate of soda internally, based on this theory, was most generally successful in preventing suppuration and hastening resolution. As a local application he used bicarbonate of sodium, with gratifying results. In regard to hypertrophied tonsils, he advocated ablation of the glands, and said that the prevalent idea held by many practitioners, that cutting off a small portion of the tonsil would cause a shrinking of the rest, was erroneous. Hemorrhage was, as a rule, insignificant, particularly in children. The "third" tonsil, he said, was the collection of glands situated on the vault of the pharynx, variously designated by different authors as "adenoid tissue," "pharyngeal tonsil," etc. This collection of glands differs in nothing from the faucial tonsils, and is subject to the same pathological changes,—viz., inflammation and hypertrophy,—which should be treated in the same manner as when occurring in the faucial tonsils.

These views regarding the tonsils, and particularly as to the cause of tonsillitis, have been advanced of late by laryngologists and clinicians, and are gradually gaining ground; yet, at the same time, the percentage of those cases of quinsy caused by a rheumatic tendency seems to me somewhat too high, for in my individual experience I have met with but a few, and found the salicylate of soda in the other cases of no value whatever. In the same way did the bicarbonate of sodium, locally applied, give but very doubtful results in my hands.

ERGOT IN THE TREATMENT OF CONSTIPATION.—Dr. Granzio reports two cases of constipation following the abuse of purgatives relieved by ergot. Three doses of ten grains each were given at intervals of two hours, and were followed by a copious evacuation. A second stool occurred spontaneously the next day, and, after the administration of ergot in smaller doses for a few days, a definite cure was obtained. The constipation was due to atony of the muscular wall of the intestines. (*Allgemeine medicinische Central-Zeitung*, May 24, 1884).—*Practitioner.*

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINICAL REMARKS ON POST-TYPHOID ELEVATION OF TEMPERATURE.

BY J. M. DA COSTA, M.D.

GENTLEMEN,—I wish to call your attention to certain cases of post-typhoid elevation of temperature,—cases which cannot strictly be classed among those of relapse or of recrudescence of typhoid fever. It has happened to me to see, both in this hospital and in private practice, a number of patients who, after passing through the course of the disease, still retained a fever-temperature, or if, as is much more usual, the temperature had for a time resumed its normal status, it went up again, without a redevelopment of diarrhœa, the appearance of rose-spots, or the return of cerebral symptoms. I have seen it shoot up as high even as 105°, and almost as quickly go down again to the normal, or even below. It was only yesterday that I met a physician in large practice in this city in a case of a boy convalescent from typhoid fever, in which the temperature on two occasions went up suddenly to 105°, without there being any signs of relapse of the disease, and on both occasions there were no other manifestations of systemic disturbance, and the temperature soon went back again to normal.

In the case I show you this morning something of the kind happened. His history is a long one, of which I need only give you the outline. His name is Thomas T., 20 years of age, born in Ireland. He was admitted September 22, 1884, after five days' sickness with typhoid fever. He has been here for nearly three months. The temperature, with the usual fluctuations, returned to the normal at the end of four weeks; during this period he went through the regular course of a typhoid fever of rather more than usual severity. After he had passed the height of the disease, his recovery was delayed by an attack of milk-leg. When this had subsided and his temperature had become normal and had so continued for several days, he had a sudden rise of temperature to 104° one afternoon (November 3), but there were no other symptoms of disorder, and on the next day the temperature was 100°, and afterwards gradually subsided to normal. I find that the temperature again rose on the 20th of November to 101½°; subsequently it remained steadily high for nearly a week.

There is a class of cases, of which I have seen a number in former years of service in this hospital, in which there is a sustained fever-temperature after all the other signs of the disease have passed away and the patient is convalescent. In this class of patients I have seen the temperature fall from 100° to normal as soon as they were allowed to get out of bed. The temperature would apparently remain elevated indefinitely, without any other sign of disease, as long as they were kept in bed. This has taught me that in some cases, if you want to get them well, you must get them out of bed: too much coddling does harm. The sustained abnormal temperature makes the physician, nurse, and patient afraid, although all the other appearances are favorable. When the patient is allowed to sit up, gradually extending the time, the temperature falls.

There is another class to which I wish to direct your attention. Of course it is understood that elevation of temperature often occurs from indiscretion in diet: these instances I need not refer to further. I merely mention them to complete the series. In this man the first elevation I referred to was caused by reading a book, and that in the boy had a similar cause. The boy was of very impressionable nature, and, when a schoolmate called upon him and insisted upon seeing him after his attack of typhoid fever, he became very much excited after his friend had gone away, and cried for some time. That evening his temperature went up to 105°. Mental emotion, then, may be a cause of high temperature during convalescence from typhoid fever.

This does not, however, completely cover the case before you. I took the patient out of bed, forbade any excitement or mental effort, but the temperature continued high, although he had no diarrhœa or other symptom of disease. Examining the case repeatedly, I could find nothing but constipation that was amiss. Upon looking carefully for a cause why the temperature remained elevated, it occurred to me that it might be due to constipation; the fever-temperature being caused by irritation of hard masses

of retained fæcal matter in the intestine. I ordered this man a daily enema and one drop of the fluid extract of belladonna three times a day. This I had found in previous cases effective in correcting a tendency to constipation after typhoid, where irritating purgatives would be dangerous. Now, here the effect was very soon apparent. I have to report that the temperature fell to normal as soon as the intestines were freely evacuated, and has remained so. He now has a daily movement of the bowels, feels well, though still weak: his temperature is 98½°. He is no longer confined to his bed.

TRANSLATIONS.

Treatment of Diphtheria.—The *Centralblatt für die Gesammte Therapie* mentions three varieties of treatment which have recently been brought forward. A solution of corrosive sublimate (one to ten thousand) is hourly applied to the throat, each time using a new feather (absorbent cotton upon a stick would probably answer the purpose very well), by Dr. Rudolph Canstatt, Uruguay. Dr. Moly reports excellent results from the following: on the first day every fifteen minutes, on the second day every hour, finely-pulverized camphor is applied by a brush, or with the fingers; at the end of forty-eight hours even the worst cases show striking improvement. He lost, out of one hundred and forty-three, only two cases, one of which was for too short a time under treatment, the other was refractory. Dr. F. Kuchenmeister recommends a treatment which he has used for twenty years. He dilutes Volquardt's mixture (℞ Sodii nitrat., Sodii carbonat., Aquæ, āā 2 G.) with water 100 and syrup 20. The sodium salts appear to act upon the blood, and especially its protein albumen, and also in such a manner as to reduce the fever. He also applies a sublimate solution locally several times daily, and uses lime-water (diluted three-fourths with water) as a gargle. The union of the lime-water with the sublimate is considered a favorable one, because the diphtheritic membrane is first dissolved, and the sublimate solution attacks the germs and destroys their activity.—*Deutsche Amerikan. Apotheker Zeitung.*

Treatment of Auricular Vertigo by Surgical Operation.—Weber Liel recommended, and has practised for a long time already, the section of the tensor tympani muscle as an extremely efficient means of treatment for certain attacks of vertigo due to ear-disorder. The following case (*Monatsschrift für Ohrenheilkunde*, 1883, No. 11) demonstrates very conclusively the value of this treatment in proper cases. A man 44 years of age, a clerk, suffered from intense degree of vertigo, weakness of hearing, and tinnitus, supposed to be the result of a blow on the head received in a fall while drunk. He could not walk even a few steps without staggering. Examination showed that the only appreciable lesions were in the auditory canal and the tympanic membrane of the right ear. Nothing was present to indicate that a cerebral cause for the vertigo existed. Rarefaction of the air diminished the tinnitus and the vertigo. Weber Liel then performed tenotomy by section of the anterior portion of the tympanic membrane. The success was immediate and striking. The patient was able to execute all the movements of the head rapidly and in all directions, turn in a circle, etc., without experiencing the slightest disagreeable sensation. Moreover, the noises in his ear, which had been so annoying as to keep him awake at night, became so much softer that they were quite bearable; and later it was found that his hearing had notably improved. The operation was performed in 1879, and the vertigo has never returned since that time. —*Annales de l'Oreille, du Larynx et des Organes connexes.*

A Clinical Test of Lead-Poisoning.—Dr. Du Moulin recently presented before the Académie Royale de Médecine de Belgique (*Revue Médicale*) a young man affected with saturnism, whose skin, when painted with monosulphide of sodium or sulphide of ammonium, gave a well-marked plumbic reaction. This test for the presence of lead in the system by testing the skin with an alkaline sulphide he referred to as a new and curious pathognomonic symptom which often appears earlier than the blue line on the gums, and as more characteristic and demonstrative than the latter. [This is in accordance with the observation of Dr. Pereira, that lead is eliminated by the skin.]

PHILADELPHIA
MEDICAL TIMES.
PHILADELPHIA, DECEMBER 27, 1884.

EDITORIAL.

THE PROPOSED ACT OF THE LEGISLATURE CREATING A STATE BOARD OF MEDICAL EXAMINERS AND LICENSERS.

A BILL has been prepared for presentation before the Legislature of Pennsylvania during the present winter, having for its object the establishment of a permanent commission to be known as the State Board of Medical Examiners and Licensers, which shall have the power to pass upon the qualifications of all physicians seeking to practise medicine or surgery in the State of Pennsylvania after the 1st of September, 1886. As the bill has been framed with evident care by a Committee of Conference consisting of members of the Philadelphia Medical Jurisprudence Society, members of the Philadelphia County Medical Society and Pennsylvania State Medical Society, as well as from the Homœopathic State Medical Society of Pennsylvania, we will review its main points of interest.

There are several very good features in the proposed bill. In the first place, as to the constitution of the Board, it has been wisely, we think, provided that the Governor shall be restricted in his choice of the nine members to a list presented by the two chartered State medical societies, which shall nominate three candidates for each vacancy,—with the provision, however, that the proportion between the regular and homœopathic members shall be as seven to two. Five members, of whom one at least shall represent the Homœopathic Society, are to constitute a quorum. The only officer of the Board to be paid out of the State Treasury is the Secretary and Treasurer, who shall receive a salary (the amount to be fixed by the Board), and who shall give bonds for the faithful performance of his or her duties. The remuneration of the several members of the Board is to be paid from the fees received for examination, provided that any excess over and above seven hundred dollars each per annum, after deducting necessary expenses, shall be paid into the public treasury. The Board shall hold two stated meetings each year,—one at Philadelphia on the second Tuesday in May, and one in Pittsburg on the second Tuesday in November,—and, in addition, as many special meetings as it may deem proper.

The examinations must be in writing, and the papers must be preserved for five years, during which time they will remain open for inspection at the office of the said Board, which shall be in Philadelphia. The examinations shall be in anatomy, physiology, histology, general chemistry, pathology, therapeutics, principles and practice of medicine, surgery, and obstetrics. The fee for examination is fixed at twenty dollars; a second examination, in case of failure to pass the first, will be held without additional payment of a fee. All candidates are required to pass the same examinations, except upon principles and practice of medicine, upon which subject two sets of papers shall be prepared by the regular and homœopathic representatives upon the Board, the candidate to elect which he wishes to be examined upon. As each candidate is to be known only by a confidential number, it is believed that this will prevent any partiality, as the papers will be judged strictly on their merits. The records of the Board are required to be kept open for public reference, and a list of those candidates who have received licenses shall be published each year.

An important provision is that conferring the power to revoke a license: upon charges of unprofessional conduct being

brought and sustained by investigation, the Board of Licensers shall bring the case to the attention of the District Attorney of the county in which he or she may have practised, in order that the offender may be summoned to appear and show cause why his license should not be revoked. The court shall have the power to direct that such license shall be stricken from the list recorded in the office of the Prothonotary of the Court of Common Pleas for the county in which the said accused shall reside. An adequate penalty is provided for violations of this act. It is provided that any person violating the provisions of this act shall be guilty of a misdemeanor, and, if convicted, shall pay a fine of not less than fifty nor more than five hundred dollars for each offence. The clause in the Registration Act of June 8, 1881, referring to the endorsement of foreign diplomas by local medical faculties, is repealed and annulled.

This act, if it become a law, will only affect those who enter upon the practice of medicine in this State after the 1st of September, 1886.

Some considerations suggested by this bill are embodied in a leading article in another column.

THE NEED OF LEGAL CONTROL OVER MEDICAL PRACTICE.

THE series of papers which have appeared among our original contributions recently, notably those by Dr. Gihon, Dr. Jackson, Dr. Keyser, and Dr. Roberts, has presented the necessity of legal control over the practice of medicine in such a strong light that we had not intended to refer to it further; but we cannot forbear quoting a case which was before our courts last week, which, taken as a fact, demonstrates the correctness of the proposition more conclusively than pages of argument. A man in the northern part of the city died while under the care of a "professor" who makes and sells his own medicine. The widow called upon the professor for a death-certificate, when, she says, she learned for the first time that he was not a doctor and not entitled to sign a certificate. He was afterwards brought up to answer to a charge of malpractice, when he explained that he was formerly a real estate agent, had no medical education, and did not know that the law could prevent him from making and selling a medicine which he knew was good because it had cured him. The title of Professor he had adopted because he professed to make and sell medicine; he also had been in the habit of attending the sick when requested to do so. He was held by the magistrate to answer at court.

If anything were needed to discover to the world the contemptuous estimate which is put upon the responsibilities of medical practice by some in this community, and which derives at least tacit support from laws not sufficiently stringent, or inadequately executed, to prevent such an abuse, we think that cases like this would do it. For the protection of the reputation of Philadelphia as a medical centre something should be done to elevate the practice of medicine. Might not colleges of this city establish a board of censors, or regents, who could strive to have proper laws framed to protect the community from impostors, and be charged with the duty of seeing them enforced and offenders prosecuted in the courts? The New York County Medical Society has spent thousands of dollars in seeking out and punishing offenders against the medical laws. Will our County Medical Society be sufficiently public-spirited to spend some of its accumulated saving for the same good object?

WE regret to notice the death of Dr. James G. Thomas, an eminent physician of Savannah, while in attendance at the meeting of the General Committee of Organization of the Ninth International Congress at Washington.

LEADING ARTICLES.

ARE LAWS REGULATING THE PRACTICE OF MEDICINE CONSTITUTIONAL?

IT may be asserted, in objection to medical legislation, that, as the public in a free country has a natural right to choose its own medical advisers, an equal right exists on the part of medical men to practise medicine free from any restraint by law. Moreover, it has been claimed that laws restricting the practice of medicine really confer a franchise upon a certain class of men, thereby constituting class legislation, which is opposed to the spirit and letter of the Constitution of the State of Pennsylvania. It may also be urged that a law requiring a special examination and license before an applicant can be admitted to register as a physician and enjoy all the rights and privileges thereto pertaining is in itself inoperative and unconstitutional, at least so far as the college graduate is concerned, because the graduate in medicine has those rights and privileges secured to him by his diploma given under the seal of an institution acting under the authority of a charter by which it is fully empowered to confer such rights and privileges upon its approved students, and that the utmost that the State can do is to require a registration of the diploma and the payment of a fee. Finally, since the State accepts the diploma, if genuine, as an evidence of professional competency to practise medicine, as citizens of one State have all the rights and privileges of citizens of another State, it follows that the diplomas of schools in other States of the Union likewise confer the right to practise in Pennsylvania.

Without going into a general consideration of the increasing necessity of State supervision over those individuals entering upon the practice of medicine, we will merely state that this necessity will grow more pressing in proportion with the vigor with which medical laws are framed and enforced in surrounding States, thereby driving a horde of ignorant and unscrupulous pretenders to medical knowledge over our borders, to teach our people, by painful experience, the results of free trade in medicine. Unless some judicious legislation prevent, Pennsylvania seems doomed to become the Paradise of Quacks. Legislation, however, will be worse than useless unless judiciously framed and capable of being executed in the same spirit. That medical legislation can accomplish much good, if not all that the friends of reform desire in this State, may be considered as having been fully demonstrated by the labors of the State Boards of Health of West Virginia and of Illinois, the efficiency of which is universally acknowledged.

In reply to the objection mentioned at the beginning of this article, it is sufficient to say that the States do not recognize the right to practise medicine as a natural right, but always as one conferred upon the individual, a statutory right. This is proved by the fact that, in every State in which medical laws have been adopted, the right to practise medicine has been treated as one which has been conferred by the Legislature, and therefore may be controlled by statute providing for licensing to practise those who are found to be competent within its geographical limits, beyond which its authority does not extend. In fact, all who enjoy the right to practise medicine derive their authority to do so from the State, which may adopt a statutory provision requiring them to register, and it may also forbid their practising without a license.

The claim that such legislation restricting the practice of medicine to the hands of those who have given satisfactory proofs of their fitness is of the nature of class legislation, is so obviously untrue as scarcely to admit of discussion. The practice of medicine is not thereby confined to any particular class in the community, but remains free to individuals of all classes who qualify themselves for its duties by due preparation. It confers no exclusive prerogatives, and excludes only incompetency and ignorance, leaving the way open to all to attain the standard of qualification.

The third objection, however, demands a little more consideration. If there were no institutions in Pennsylvania possessing chartered rights to grant medical degrees upon persons possessing the legal qualifications to practise, the question would be a much simpler one to decide. If only physicians from other States were to ask for registration, the condition of affairs would be far different. For, as the power of a State to confer statutory rights and privileges is restricted to its own geographical limits, it follows that when a physician

emigrates from a State he leaves behind him such rights and privileges, and must submit to the regulations of the State in which he settles before he can enter upon the practice of medicine within its borders. With regard to those physicians who have diplomas from institutions outside of Pennsylvania, it is clear that the Legislature has the right to require them to obtain a license and give evidence of their fitness before being admitted to registration. But that such a course can be pursued in dealing with graduates of our own medical colleges is another question. An eminent jurist* has recently given a decided expression of opinion upon this subject, as follows: "The State may doubtless create a board of health or a similar body, and require every physician to register his license with the board, or in the office of the county clerk or other appropriate place. But his right to practise will not depend upon his registration, as the right has been already vested and assured by the diploma and license of the college. And, should the State also vest this board of health with the right and even duty of examining and licensing applicants, it could not apply to those who held a license from the incorporated colleges. Nor could it militate against or invalidate in any way the right of the colleges to issue valid diplomas and licenses, before or after; for not even can the State by its legislation divest or impair a vested right which the colleges already had."

If Judge McGary is right, then, if we wish to have a State Board of Examiners and Licensers, the law must be framed so as to exempt the graduates of Pennsylvania schools from examination for license. Possibly the incorporated colleges might be persuaded to establish a conjoint examination-board (thus relieving them of the task of examining their students) and grant their diplomas and licenses only to those who are approved by the Board. As several members of the faculties have been much interested in framing the bill above referred to, it is hoped that the co-operation of the medical colleges may be secured in the great work of medical reform, in which the colleges, as well as the profession throughout the State, are so deeply interested. The question whether the particular proposed law to establish a State Board of Examiners and Licensers is constitutional or not, is one that deserves and will receive serious consideration. Of the general right of the State to make such laws there can be no reasonable doubt.

* Judge McGary, of Washington, in an article entitled, "Are Medical Laws Constitutional?" in "Health and Home" for September 15.

NOTES FROM SPECIAL CORRESPONDENTS.

LOUISVILLE.

ENDEMIC OF TYPHOID FEVER.

MR. EDITOR,—About the middle of August last, cases of typhoid fever began to appear here and there throughout the western part of this city. The endemic reached its maximum about the 20th of October, and since then has been on the decline, though not rapidly. The number of cases that have occurred is not accurately known, but the best estimates place it at three hundred to three hundred and fifty. The mortality has been about twelve per cent. At a recent meeting of the Louisville Medical Society the cause of the disease, with particular reference to this city, was made the subject for discussion.

Dr. J. M. Clemens, as leader of the discussion, read a paper in which he said in substance, "It is known to you all, gentlemen, that the epidemic of typhoid fever which has been prevailing for the past few months in our midst is of such proportions as to challenge the very best consideration of the subject by our profession.

"In my own practice there have occurred, since the middle of July, sixty-three cases: judging from the stand-point of my own experience with the disease, I should think there had been fully three hundred cases occurring in this city up to the present time. The period of greatest activity was about the middle of August, though isolated cases have been occurring for several months. The type has been generally mild, although all grades have been represented, from the mild or walking cases to the severest. The clinical features have not differed from what is already known and recognized as common.

"As to the factors concerned in the causation of this outbreak, the opinions which I have previously held and repeatedly expressed have been strengthened by the conditions and surroundings found to exist in connection with the cases I have seen. I accept the germ-theory of this and other kindred diseases. I believe that every febrile disease which runs a definite course, which is marked by characteristic features and stages,

is due to a specific organism. I hold this as especially true of contagious and infectious diseases, as I believe it is held in common by a great majority of the best medical minds at the present time, though there is still a very respectable minority that does not concede it.

"The theory of micro-organisms, in my estimation, furnishes the only basis upon which the origin and known factors of the disease can be explained. Although cases arise that are not clearly traceable to a previous one, yet instances are so numerous where the connection has been traced, even through a mysterious chain of circumstances, to a previous case, that the weight of authority is now in favor of that hypothesis. There are strong reasons for believing that the decomposition of fæcal matter develops, increases, or intensifies what might otherwise exist as harmless organisms. These, according to M. Pasteur, once introduced into the human body, reproduce themselves indefinitely and are largely eliminated by the intestinal discharges. The investigations of Klebs, of Prague, enable him to bear strong testimony in favor of this theory. He believes he has discovered the organism of the disease: he writes that he has been able to find at the necropsy of twenty-four cases microbes in the various organs which do not exist in cases of death from other causes. In the light of this theory, the most rational explanation of the outbreak in this city is afforded.

"I have but to call the attention of the Society to the fact that, at the time when the site of the city was chosen, the whole of this district in which the disease has to the largest extent manifested itself was a marsh, and that at the present time many ponds still remain. The river, which in previous years flowed in the general direction which it still maintains,—viz., from northwest to southeast,—at the present sweeps around the city in a magnificent curve to again assume that general direction. If I am correctly informed, a well may be sunk at any point in this city to the common depth and water found; that depth varies from twenty-five to sixty feet. The underlying geological formation consists of strata as follows: earth, boulders, gravel, sand, and clay, followed again by boulders, gravel, sand, etc. The water-stratum in this boulder-bed and that of the gravel must have a very free circulation. Now, it is the custom in this city to sink privy-vaults into the earth, and a vault sunk short of the boulder-bed, in order that the fluid contents may drain away, is considered a very poor makeshift indeed. Upon an average, it may be said that to every public well for drinking-water in this city there are forty vaults reaching down to the boulder-bed to contaminate it, and many of these wells, in addition, are befouled by surface-seapage, the walls serving as a kind of conduit, carrying down filth on the outside, to be pumped up from the inside.

It is a fact that, of the sixty-three cases I have had, all the subjects, except one, habitually drank this pump-water, and that one exceptional case drank it occasionally. Of my patrons in this typhoid-fever district who use the hydrant-water, but one has had the disease. Is not this chain of circumstances, to say the least, suggestive? I answer, bearing in mind the formation of the vaults as given, and the unusual water-pressure to which the ground-water has been subjected during our floods of last and the preceding spring, that such a theory bears something more than the stamp of plausibility."

In discussing this paper, Dr. William Bailey said he was inclined to think, from the specific character of the symptoms and the well-defined clinical history of typhoid fever, that it is due to a specific cause. What this is—whether a micro-organism or not—he was waiting to hear from those prepared to investigate questions of that kind. When the proof comes, he will be ready to accept it. He did not think that causal relations had been established as yet between these forms of bacteria and the diseases in connection with which they are found, and at present he had not fully accepted the germ-theory of disease. He did not think himself qualified to get at the facts as to whether micro-organisms are causal or concomitant; whether they originate the disease, or whether they come as an after-clap; whether they are scavengers in the wake of the disease, or whether they act first to produce it. He was somewhat heretical concerning the contagiousness of typhoid fever, and even was scarcely willing to believe that one case of typhoid fever is dependent upon another for its origin. The first case of smallpox must have originated *de novo;* but at the present time he believed that no one would expect a case of smallpox to arise in that way. Typhoid fever, however, he was inclined to think, is due to a local cause, whether atmospheric or not he did not know; yet local conditions do develop the specific poison, whatever this cause may be. Whenever the conditions are present it is developed, no matter where, and all who are susceptible to the cause coming within its influence suffer from its effects more or less. There are so many cases of endemics that seemed so clearly traceable to other causes than contagion that it renders all doubtful.

He recalled a case where the disease broke out in a school, but, strange to say, it occurred only among the occupants of one side of the house. When an inspection of the local sanitary conditions was made, it was found there was a break in the pipe used for drainage for that part of the building.

He had no hesitation in saying there is no possibility of communicating the disease by direct contact from the sick to the well. If there is any contagion at all, it is due to what

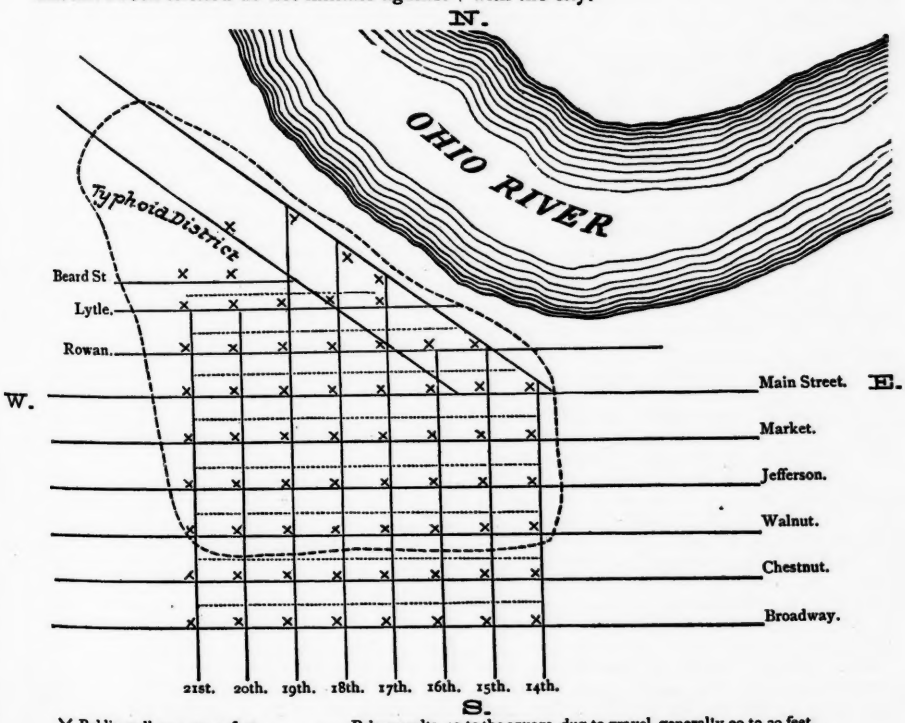
we recognize as miasmatic contagion, not directly from the sick to the well.

In concluding, he called attention to a paper read at the American Public Health Association recently held in St. Louis, by a distinguished sanitarian, Dr. Henry Baker, Secretary of the State Board of Health of Michigan, in which he took the position that typhoid fever was due to the lowering of the subsoil water; that typhoid fever is more prevalent in hot and dry falls, when the water sinks lowest in wells, and when poisons present in it must be more than usually condensed. This paper attracted a great deal of attention before this body of sanitarians.

The paper was discussed by Drs. Preston B. Scott, F. C. Wilson, J. Brandeis, Turner Anderson, and William Bailey, the speakers generally agreeing with the main points of the paper, although not considering the existence of a typhoid-fever germ as sufficiently established.

In conclusion, Dr. Clemens said he wished to dispossess the minds of many who have participated in this discussion that he had claimed that all these cases were due to the pump-water: other conditions and causes have long been recognized as productive of the disease. But, on the other hand, that many of them have received their infection from this source he did not doubt. The facts that have been elicited do not militate against the theory that these public wells are contaminated. He had simply brought forward these facts as such as to warrant him in the conclusion that the contamination of the water-supply had been mostly to blame for this epidemic. If this germ-theory be true, a gradual increase of the disease would be a reasonable deduction: that, as has appeared in the discussion, has occurred since the year 1880. That fact would also sustain the theory that the privy-vaults and their contents have acted as receptacles for the poison, in which to breed and intensify till a favorable condition for its development arises. Neither does it militate against this theory that cases have occurred in families that habitually use the hydrant-water, because in most families are children that go to school and are in the streets much of the time, and they no doubt, when thirsty, drink the water so kindly and conveniently provided for them on every corner.

At the conclusion of the discussion it was decided to continue the consideration of this subject at the succeeding meeting of the Society, following which the subject of the treatment of typhoid fever will be introduced in a paper by Dr. Turner Anderson. The following subjoined sketch of the condition of the city in the infected district may offer additional suggestions to those unacquainted with the city.



× Public wells—20 to 35 feet. ..... Privy-vaults, 40 to the square, dug to gravel, generally 20 to 30 feet.

There seems to be a conflict of authority among the public health authorities. Yesterday, at a meeting of the City Board of Health, a communication from the Secretary of the State Board of Health, asking for a report of the precautions, if any have been instituted, against a possible outbreak of cholera within the year, was tabled, on the motion of the mayor, for the reason that the municipal Board of Health is an organization which is entirely independent of the State Board. This illustrates pretty well the status of the feeling of the City Board towards the State organization. The motley crew designated the City Board, when the subject of typhoid fever first began to attract public notice by its prevalence in this city, at first denied its existence to the extent reported, finally admitted its prevalence to the amount of three or four hundred cases, and then in the daily prints excused its wanton ignorance and neglect on the ground that it had no power to do anything, and that the people expect too much from the City Health Officer. The truth is, the people expect nothing from the City Health Officer, pay him two thousand dollars per annum for doing it, and—have their expectations fully realized.

The Secretary of the State Board of Health entered zealously into the work of investigating as far as possible the causes of the outbreak and the conditions probably perpetuating it. A report of his work will soon be before the profession. When this work was begun, the co-operation of the City Health Officer was solicited. The only response to this invitation so far made public was an announcement by the City Health Officer at one of the *séances* of the Board of Health that he and the small remainder of honorable members had never been *officially* requested to participate in this investigation!

COLLEGES AND HOSPITALS.

The medical college controversy between the representatives of the Louisville Medical College and the University of Louisville, consisting of Dr. Galt on the one side and Dr. Yandell on the other, appears to have had the effect of reducing the usual number of students in attendance at both institutions. The probabilities are that many of the charges brought against the Louisville Medical College by Dr. Yandell are true; on the other hand, Dr. Galt is doubtless a man of equal veracity, and no doubt many of the charges brought by him against the University are true. Each seemed to establish the charges he brought; whence very naturally follows the conclusion that no doubt both institutions might, with profit to themselves, the public, and the profession, be reorganized.

In the coming month the two spring and summer schools will open their sessions. Judging from the experience of the last two years, there can be little doubt that this is the most popular season for medical teaching in Louisville.

At the City Hospital a great deal of interest is created among the students who attend there, on account of the fact that at each clinic-day members of the faculty of two schools hold forth in the two consecutive hours. Professors Roberts, of the University, and Miller, of the Louisville Medical College, constitute the surgical staff for the winter terms, and Holloway, of the Kentucky, and Cartledge, of the Hospital Medical College, compose the staff for the summer terms. Holland, of the University, and Galt, of the Louisville, represent the medical staff for the fall and winter, whilst Marvin, of the Kentucky School, and Wilson, of the Hospital College, perform this duty in the spring and summer. Thus students enjoy the advantages of diverse methods of rival teachers during the whole school year, beginning late in September and extending till the last of June.

One of the most urgent needs at our City Hospital is the establishment of a ward for tubercular patients. In the light of recent investigations, it is wrong that individuals whose power of resistance to infectious disease, whose vitality, is temporarily lowered by suffering, should be constantly exposed to tubercular infection by association with the subjects of that disease. Another need, apparent to the most casual observer, is the establishment of a ward for incurable cases of uterine cancer. In every large hospital are to be found these cases, polluting the atmosphere and disgusting the olfactories of every one necessarily in their presence. The subject of such a disease cannot but feel that her presence is offensive to others, because she is offensive to herself. Among even the most hardened, this consciousness is productive of suffering, and it would be but merciful to allow them the seclusion that their cases demand.

The "constant-immersion" treatment of chronic ulcers, which constitutes a large number of hospital cases generally, has been instituted and maintained for a considerable time by Dr. Cox, one of the internes at the Louisville City Hospital. It is generally conceded that he is meeting with a success above the average by this plan.

In contrast to this, Dr. Marshall, one of his co-laborers, is treating another set of similar cases by the "salicylic-acid dressing." He is not behind his *confrère* in results. In a future communication I shall refer to this subject again.

At the last meeting of the Louisville Medical Society, Dr. W. O. Roberts presented a fibro-cystic ovarian tumor removed the week before from a girl 19 years old. This was his fifth case. Two cases only had died,—one of septicæmia, the other of peritonitis.

Dr. Turner Anderson opened the discussion on "The Treatment of Typhoid Fever." He laid especial stress upon the importance of early diagnosis and early treatment. He advocated the use of opium to produce sleep and to relieve restlessness due to cerebral anæmia, and considered quinine useless, if not injurious, in the course of the disease, only admitting it during convalescence. He favored alcohol in moderation (f℥ij during the day), and expressed disapproval of the specific treatment with calomel and iodine. In hemorrhage he relied upon elixir of opium and a large dose (f℥ij) of spirits of turpentine. He did not believe in personal contagion in this disease, but considered the alvine discharges as containing the *materies morbi*. He uniformly disinfects them by the use of copperas and muriatic acid.

ALLEN KELCH, M.D.

PROCEEDINGS OF SOCIETIES.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held December 4, 1884, FORDYCE BARKER, M.D., LL.D., President, in the chair.

IS THE OPERATION OF TRACHEOTOMY IN DIPHTHERITIC CROUP DANGEROUS? WHEN SHOULD THE OPERATION BE PERFORMED?

Dr. JOSEPH E. WINTERS read a paper with this title. He said that the opinion that tracheotomy was a dangerous surgical operation he believed had no valid foundation, and should not be accepted with the confidence with which it seemed to have been received in this hall in March last. He quoted from Mr. Holmes, who represented the operation as a very dangerous one, but said that in one of Mr. Holmes's three fatal cases death was due to what would be called a too nimble tracheotomy, and in another complications arose from inserting the tracheotomy-tube into the cellular tissue outside of the wound, and he regarded comment upon Mr. Holmes's tracheotomies as unnecessary. Prof. Gross, in one part of his work on "Foreign Bodies in the Air-Passages," expressed his opinion of tracheotomy in the class of cases coming under the subject of the paper as very dangerous, and yet quotations elsewhere from the same volume showed that the author was contradictory in his own statements on this point, and it nowhere appeared in this work that he had ever performed tracheotomy for diphtheritic croup. Billroth, some years ago, at a time when there was no evidence that he had performed tracheotomy for diphtheritic croup more than a dozen times, had expressed an opinion that the operation in these cases was a dangerous one; but there was nothing in his more recent writings which would indicate that he any longer entertained this view.

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The author quoted from numerous writers on the subject of tracheotomy, particularly for diphtheritic croup, some of whom had lived in ancient, some in modern, and some in quite recent times, and in most instances the quotations went to show that tracheotomy in diphtheritic croup was not a dangerous operation. Trousseau had performed the operation two hundred times, without a single accident except in one case, in which the patient died as soon as an incision through the integument had been made. Bretonneau did not speak of the operation as a dangerous one, nor of skill in its performance as necessary to success. Barthez did not regard the operation as dangerous; and quotations to the same effect were made from West, Meigs and Pepper, R. M. Edwards, Mr. Lawrence, J. H. Pooley, Mastin, W. M. Parker, Chambers, etc.

Dr. Winters did not regard the entrance of a small quantity of blood into the trachea as dangerous; on the contrary, many operators recommended that a little blood be allowed to enter the trachea, in order that violent cough might be induced, which would expel viscid mucus and fluids.

The operation of tracheotomy in itself not being dangerous, nothing connected with its mere performance should deter us from resorting to it when indicated. In a large proportion of cases of diphtheria which terminated fatally, death was due to obstruction of the passage of air into the lungs, and the object of tracheotomy was to overcome this difficulty. When the operation failed to save life, generally the reason would be found to lie in the fact that it had been postponed too long a time, in complications existing in the bronchi or lungs, in sudden collapse, in asthenia, or in want of careful after-management. Suppuration in the anterior mediastinum, erysipelas and gangrene around the wound, and slipping of the canula into the tracheal opening had very seldom occurred. Even German writers, as well as others quoted, did not speak of diphtheria of the tracheal wound as more than seldom taking place.

As to the influence of the operation on the cure of croup, the admission of air into the lungs through an artificial opening into the windpipe secured for the diseased larynx entire rest, and thus led to a suspension of the diseased action there. In cases in which the patients had died from other causes than asphyxia some time after the operation had been performed, the pseudo-membrane was found to have disappeared from the larynx; but in cases in which death had taken place within a few hours after the operation the membrane still existed. It therefore appeared that in cases in which the patients got well after tracheotomy the restoration of the larynx to a healthy condition was rapid.

The author said that the diphtheritic process stopped at the level of the vocal cords

more commonly than was supposed, and when it extended into the larynx, trachea, and bronchial tubes it was by direct propagation from above downwards, and not by simultaneous affection of the entire air-passages.

If tracheotomy for diphtheritic croup was not dangerous, if it met the complication of obstruction to the entrance of air to the lungs, and was promotive of cure of the affection, if the specific disease was not aggravated by the operation, and the false membrane very rarely developed at the wound, the operation certainly brought with it no added element of danger; and the next subject which would come up for consideration was that of delay in its performance.

The author then quoted from Trousseau and others to show that a considerably larger proportion of patients upon whom the operation was performed recovered than of those who did not receive the benefits of tracheotomy. He could not conceive of a case in which delay would not be dangerous. We could gain nothing by delay, while the success of the operation would be largely interfered with thereby. When the rima glottidis was obstructed, less air entered the lungs. With every inspiration the lungs became less expanded, the circulation of the blood became embarrassed, imperfect oxidation produced violent constitutional disturbance, the entire body became cyanosed, passive congestion and œdema occurred in the respiratory organs; and yet it had been advised that these immediate precursors of death should be allowed to appear before resorting to tracheotomy. One might with as much propriety postpone herniotomy for strangulated hernia until after the development of gangrene, as to wait until this stage should be reached in diphtheritic croup before resorting to tracheotomy. In the majority of cases of croup the patient died of a want of oxygen. The object of tracheotomy was to render oxygen accessible to the lungs, and every breath of air which the child could take tended towards a cure. We should not, therefore, wait until the patient's strength had been exhausted in gasping and struggling for breath before resorting to tracheotomy.

He would resort to the operation as soon as ipecac and other ordinary remedies failed to produce relief from obstruction to the entrance of air into the lungs by the presence of membrane in the larynx. The tender age of the patient should not contra-indicate the operation, and, as in these cases the disease advanced with much greater rapidity, and as there was greater liability to bronchial and pneumonic complications, the operation should be resorted to earlier.

Prognosis.—Early age, previous ill health, especially chronic catarrh, bronchial and pulmonary changes, made the prognosis more serious, as did also measles, scarlet fever, and nasal diphtheria. When croup came on very early in the disease, making its appearance suddenly and producing marked obstruction, the prognosis was more serious. When the glands of the neck were much enlarged, the operation proved less generally successful. It was an unfavorable sign if the breathing did not become perfectly free and regular after the operation, as it indicated some obstruction below the artificial opening.

After-management.—This was more important than the manner in which the operation should be performed. Careful attention should be given to removing any obstruction to the canula. The patient's powers should be sustained by proper food and stimulants, measures should be adopted for subduing local processes, and attention should be given to the temperature and moisture of the room.

Dr. Winters said the general practitioner should not, in a case of threatening strangulation from croup, search for a surgeon to open the trachea, but should proceed to do it himself without any delay.

The following were some of the conclusions which the author had reached: 1. Tracheotomy of itself, performed with care, involved little, if any, danger to life. 2. Accidents during the operation generally resulted from want of care. 3. It prevented asphyxia, and thus gave more time for the administration of remedies and to enable the system ultimately to throw off the disease. 4. It prevented laborious and rapid breathing, thus tending to prevent exhaustion. 5. It allowed of a free supply of air, and thus assisted in curing the original malady. 6. It was a simple resource by which the condition of the patient was not likely to be rendered worse. 7. Having made a diagnosis, we should not hesitate and delay the operation, as this was the chief cause of failure in unsuccessful cases. 8. Operate slowly, deliberately, and without hurry. 9. Do not lay open the windpipe at one sweep of the knife. 10. It was seldom that either the constitutional condition or special causes contra-indicated the operation. 11. It alleviated suffering. 12. It mitigated symptoms. 13. It prevented complications. 14. It never added dangers to the original disease. 15. Statistics showed that nine-tenths of the cases requiring the operation suffocated without it. 16. No patient who had lived without the operation would have died with it. 17. The dictates of conscience, of facts, and of common humanity united in demanding the operation.

DISCUSSION.

Dr. J. WILLISTON WRIGHT, being requested to open the discussion, said he had never regarded tracheotomy as a specially difficult operation. He was perfectly well aware, however, that, undertaken (as it frequently was) in the middle of the night, in a tene-

ment-house, by the light of a tallow candle or a dirty kerosene lamp, and with such assistance as one could obtain under those circumstances, it was an operation which almost all surgeons approached with some sense of misgiving, especially as it usually occurred under those circumstances in the case of a young child having a short, thick neck and a deep trachea. These difficulties, however, were not so great in his judgment but that they might all be surmounted when they were taken in hand by a man who pretended to understand anything of surgery, coupled with a cool head and a steady hand. The incision itself was certainly a very simple one, involving, as it did, the integument, the fascia, the separation of the muscles on the front of the neck, when the operator reached a mass of connective tissue and veins. These veins, if wounded, frequently bled profusely, and, if the operator was impressed with the hemorrhage which was going on, and undertook to stop all hemorrhage (as was inculcated by many authorities) before opening the trachea, he would probably have a job which would occupy the remainder of the night. If the case was not urgent, it might be proper to stop some of the hemorrhage, even if simply venous. If the incision is made properly, arterial hemorrhage is seldom a troublesome complication in his experience. If, on the other hand, the case were one of emergency, where the great object was to effect an entrance into the trachea as quickly as possible, the child dying of asphyxia, then his custom was always to ignore this venous hemorrhage, and go on into the trachea, feeling very certain, as the speaker of the evening had stated, that hemorrhage would usually stop as soon as the trachea was entered or the tube introduced.

With regard to the entrance of blood into the trachea, he had regarded it as a matter of no special importance. It had, on the contrary, seemed to him sometimes to be the very thing which was needed to stimulate violent expulsive efforts, which would rid the trachea not only of the blood, but also of a quantity of mucus.

In the adult, he regarded tracheotomy as one of the simplest operations in surgery. In the young child it was much facilitated by placing under the back of the neck a common wine-bottle, wrapped in a napkin, allowing the head to hang over it, so as to render the trachea as superficial and prominent as possible.

With regard to the isthmus of the thyroid gland, in operating in emergent cases, in which saving time was the great element, he should be inclined to ignore it altogether, cutting through it with the knife. If time were not an important element, and the gland were in the way and contained a large vessel, he should of course take the precaution to surround the two sides of it with a ligature and divide it between them, as had been indicated by Dr. Winters.

As to the time when tracheotomy should be performed, he thought that, in order to be of much service, it should be done early, and he coincided entirely in what Dr. Winters had said upon this point. He did not think that the operation itself was in any sense a cause of death in membranous croup or diphtheria of the larynx. He was so strongly convinced of the importance of the operation that, if it were indicated and no surgeon were at hand, he would perform it upon himself with a pocket-knife, aided by the hand-mirror.

Dr. A. JACOBI said that much had been written upon the subject of the paper of the evening by many different writers, and Dr. Winters doubtless had recognized the fact that it would be impossible to cover the entire ground in a single paper; that being the case, Dr. Jacobi would limit his remarks to some points brought out in the paper, and would not try to discuss the entire general subject. The paper of the evening was a valuable one, and it would not detract from its value if he should venture to offer some criticisms upon it. The author had quoted extensively from European writers, both ancient and modern, with the principal object in view of showing that tracheotomy was not a dangerous operation, while but very limited reference had been made to American writers, some of whom—as Dr. Day, Dr. Hadden, Dr. Ripley, and others—had written papers containing much useful information upon this subject.

With regard to the dangers of tracheotomy, he thought the principal one was a bungling operation, and by that he meant a bloody operation. Hemorrhage was often due to the operator trying to get through with the operation as soon as possible. Tracheotomy should be performed deliberately, and the isthmus should not be cut through if the operator had as much as two or three minutes' time to spare. Many years ago he lost a case from hemorrhage by going directly through the isthmus into the trachea. The child would not cough up all the blood which had been allowed to enter the trachea. Even in a vigorous patient some of the fluid would be expelled ten, fifteen, or twenty minutes after the operation, and perhaps some of it would never be thrown up. Blood in the bronchi would have the same influence which so much viscid mucus would have in the same position,—namely, to prevent passage of air into the air-cells, which would cause them to contract, the blood-vessels to dilate, congestion, and broncho-pneumonia.

Another cause of danger was failure to administer chloroform. He preferred chloroform to ether, because the child could be brought more quickly under its influence. He knew of cases in which babies had died from struggling in the arms of the nurse,

who had taken them out of bed to make a simple nasal injection.

At what period in croup should the operation be performed? He was certainly of the opinion that after a diagnosis had been made we ought not to wait. He would not limit the operation to cases of membranous croup, but would also resort to it in those cases of laryngitis accompanied by stenosis of a congestive and œdematous type. He objected to dividing croup into stages in these cases, inasmuch as in some instances the operation was indicated quite early in the disease. He would operate in any case in which there was considerable laryngeal stenosis, recession about the supra- and infra-clavicular and ensiform regions, particularly if these symptoms increased in the morning; and if the pulse were becoming frequent and irregular he should say it was high time to operate. He should not ask, in such a case, whether there were membranous obstruction. Could we do anything in cases in which there was constitutional diphtheria or diphtheritic sepsis? He should reply, Most decidedly. He would operate in these cases particularly, because as soon as the trachea was opened the child would cease to breathe the poisonous and fetid odors coming from the larynx and nose.

Dr. Jacobi then directed attention to the use of bichloride of mercury for the prevention of the necessity of tracheotomy in croup.

As to the causes of death after tracheotomy, they might be the same as those which would have caused a fatal result had the operation not been performed; but the principal causes of death after the operation were broncho-pneumonia, œdema of the lungs, and descent of the diphtheritic process.

Dr. J. LEWIS SMITH said that the older the child, other things being equal, the less the dangers after tracheotomy. It seemed to him that there were two conditions in which tracheotomy was specially dangerous, the one being that state in which the patient was nearly moribund and the surgeon was induced to operate hastily without due precautions against hemorrhage. He thought that in the city, where assistance could always be had, the physician should not undertake the operation alone; but assistance might not always be accessible in the country. He fully agreed with Dr. Jacobi, that the degree of laryngeal stenosis, and not necessarily the presence of pseudo-membrane in the larynx, should govern us in performing the operation. He would divide the cases of membranous croup into two classes, as based upon the necessity for an early or a later operation. If the laryngeal pseudo-membrane in diphtheria developed early in the disease, it would be found to form more rapidly than if it developed, say, at the end of a week, and tracheotomy should be performed immediately; but in the other class of cases the membrane developed more slowly, and there he would try to prevent the necessity for tracheotomy by first using alkaline inhalations, or inhalations of tripsin, and by the internal administration of mercurials. Tubage had been employed with some success in the New York Foundling Asylum.

Dr. J. H. RIPLEY had been interested in the paper, particularly as the author had taken a position quite antagonistic to that which he had held. The author's ideas regarding the dangers of the operation, its difficulties, consequences, and more especially the consequences of a late operation, were all opposed to his own views. The question was not whether tracheotomy was a difficult or a dangerous operation, but whether tracheotomy in young children for croup was a difficult and a dangerous operation. So far as the operation of tracheotomy in general was concerned, Dr. Ripley would say that it was neither very difficult nor very dangerous. The danger consisted, first, in the condition of the child, and, second, in the necessity for doing the operation within a given time. Dr. Winters, he believed, had touched upon only one danger,—namely, hemorrhage. Dr. Ripley did not regard hemorrhage as the most common cause of death. We had to deal with children suffering from systemic poisoning, stenosis of the larynx, the cellular tissue of the neck infiltrated with the products of inflammation,—sometimes swollen out even with the chin,—and in order to get at the trachea we had to go down, perhaps, two inches, which required a good deal of time and a good deal of care, and before the operation was completed the child was liable to die from syncope; if the stenosis were great, and chloroform were given, the child was liable to die of apnœa; if chloroform were not given, the child would die from struggling. He was willing to go with the small minority, which included such names as Holmes, Gross, and Billroth, and say that he regarded the operation as dangerous. He had performed tracheotomy about one hundred and ten times, and had seen it done by other men about fifty times, and he had witnessed all kinds of complications, and thought he had been the means of saving several lives by being present when inexperienced persons were operating. He had known ten deaths occur on the operating-table, the operations being performed by seven men, four of whom were surgeons of care and experience. He knew of one instance in which the operator plunged the knife into the spinal column; in another it was plunged into the œsophagus, and in a third it was plunged quite through the trachea at one side of the median line.

Dr. Winters had advocated early operations, but, as Dr. Ripley had before said, the man who operated early would have the best success, not for the reasons given by the author, but for the reason that unnecessary

operations were those which were, as a rule, done early. We often have to watch the case closely for two or three days before a differential diagnosis can be made. It was true, as Dr. Jacobi had said, that there were a few cases in which it was necessary to do tracheotomy for stenosis occurring in the course of laryngitis. There were also a certain number of cases of croup which would recover without treatment; and hence it was that there had been so many specifics for this disease.

If late operations were the cause of death, then the causes of death must be those which Dr. Winters had spoken of,—pneumonia, extensive bronchitis, infiltration of the lungs and of the bronchi. But Dr. Ripley thought that if any fact in scientific medicine could be demonstrated it was that incomplete stenosis of the air-passages above the air-cells produced not congestion of the lungs, but anæmia. The air-vesicles were in a state of acute emphysema, and if this were true delayed operations would not prove dangerous on account of broncho-pneumonia, which was liable to follow. The causes of death, according to his observations, were extension of the membrane into the bronchi and consequent suffocation, nephritis and uræmia, respiratory and cardiac paralysis. He did not know that carbonic acid poisoning would cause an extension of the membrane into the bronchi.

Dr. WINTERS, in closing the discussion, said, with regard to danger from blood entering the tracheal wound during tracheotomy, that such danger could be absolutely avoided by properly performing the operation. The scalpel should be laid aside after incising the integument, not to be used again until the tracheal cartilages had been laid bare by careful dissection with two pairs of forceps, dividing any tough bands with dull scissors. He thought the views of Dr. Jacobi regarding the dangers of blood entering the bronchi were those first advanced by Niemeyer many years ago, which were not accepted by advanced pathologists at present, and which were abandoned by Niemeyer himself before his death. If any blood should enter the trachea, it should be removed, together with whatever mucus might be present.

He had not supposed that there was any question of the propriety of using an anæsthetic in tracheotomy for croup, nor as to a choice between chloroform and ether. Another reason in addition to those offered by Dr. Jacobi for preferring chloroform was that ether is irritating to the air-passages.

As to bichloride of mercury, referred to by Dr. Jacobi, he did not believe that it could be introduced into the blood in sufficient quantity to act as a germicide or as an anti-fermentative, and the only influence which it exerted was as a tonic, and for this purpose it would never supersede iron.

As to death from extension of the pseudo-membrane into the bronchi after tracheotomy, he did not believe that any autopsy had ever been made which would tend to show that tracheotomy had caused an extension of the diphtheritic process into the lower air-passages; and in those instances in which the membrane had been found in the bronchi at the autopsy after tracheotomy, death had taken place too soon for the membrane to have developed after the operation.

As to tubage of the larynx, it had been mentioned by Hippocrates. and had been at one time resorted to considerably in France, but had been entirely abandoned.

Deaths on the operating-table were due either to late performance of tracheotomy or to carelessness.

Dr. Ripley's statement that stenosis of the air-passages above the air-cells would not produce congestion with its results would not bear examination. Any one familiar with the physiology of the circulation knew that as soon as there was embarrassment of the respiratory act there was embarrassment of the circulation in the lungs, which caused damming back of blood upon the heart; with lack of aspiration-force from inspiration there was stagnation of the blood in the blood-vessels, and post-mortem examinations in croup showed passive congestion, the accumulation of mucus in the bronchi, pulmonary collapse, and, a little later, congestion of the lungs, pulmonary œdema, and the changes of broncho-pneumonia. Dr. Ripley had also spoken of croup being analogous to asthma and emphysema, but Dr. Winters said that they were not analogous conditions at all. He had found but a single case recorded in which it was claimed that there existed a certain amount of emphysema, the result of laryngeal obstruction, in croup, and in that case it would appear the autopsy had not been made with care.

Dr. LOUIS ELSBERG wished to say that Prof. Gross only taught that tracheotomy under the circumstances in which it was sometimes necessary to perform it—not the ideal operation—was not always free from danger. He heartily sympathized with the general views expressed in Dr. Winters's paper.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, November 13, 1884.

The President, Dr. SHAKESPEARE, in the chair.

Some studies on the micrococcus of the pleuro-pneumonia of cattle. By THOMAS D. DUNN, M.D.

ON September 25, 1883, through the kindness of Dr. Bridge, Assistant State Veterinary Surgeon, and Mr. Thomas Edge, Commissioner of Agriculture of Pennsylvania,

I was invited to be present at an autopsy on some cows suffering from pleuro-pneumonia. Their condition being such that recovery was deemed impossible, Mr. Edge ordered them killed. As a description of the macroscopic and microscopic condition of the lungs was read before this Society a year ago, and as it would have no special bearing on the bacterian nature of the disease, a detailed account will be omitted. Suffice it to say the lung was completely solidified, the air-cells filled with effused blood, serum, and lymph, which usually extended into the small bronchial tubes. Portions of the consolidated lung and blood from the heart were placed in a bottle which had been thoroughly cleansed, and the bottle closed with a ground-glass stopper. These were examined microscopically by Dr. George Martin and myself, and were found swarming with germs,—micrococci. These little bodies, although seen distinctly with a power of 670 diameters, are best studied with a power of 1000. They are colorless, globular or oval in form, outline regular, and refractive power notable. Brownian movement was marked. They did not seem to move independently. They measured from a third to a half micro-millimetre (or from $\frac{1}{8000}$ to $\frac{1}{6000}$ inch) in diameter. They are not dissolved by either alkalies or acids, and take the staining of aniline colors slowly. I have, however, succeeded in staining them by first treating with aqua ammoniæ, then with staining-fluid, and afterwards washing with a weak solution of nitric acid. They have recently been more satisfactorily stained by a two per cent. alcoholic solution of methyl violet. They multiply in nitrogenous culture-fluids at ordinary temperatures by millions. They are generally separate, though sometimes united in pairs and little cellular colonies, forming distinct zoöglœa. From the fact of their being occasionally seen in pairs, it is reasonable to suppose that multiplication is taking place. They resist putrefaction, for the cultivation-tubes started September 26 swarmed with them two months later. When the nitrogenous material is exhausted, their growth is stopped, and they remain in a latent state, as it were, until additional food is given or they are transplanted into fresh fluids. After the tubes stand a few weeks, the membrane formed on the top sinks to the bottom, and the liquid above clears. That they are not dead, but only in a state of repose, is evident from the fact that they multiply anew when inoculations are made from them, but less rapidly than inoculations from more recent cultures.

Dr. J. J. Woodward, U.S.A., presented at a meeting of this Society in 1861 a pleuro-pneumonic lung, and mentioned certain "spores of fungi" found in both the healthy and diseased lung, but he did not describe them. These "spores of fungi" are probably the micrococci under consideration. Aside from this I have not found any record of them, but, unfortunately, I have not had access to the literature pertaining to this subject.

The following culture-experiments were made with the serum virus taken from the diseased lung. The culture-fluid consisted of extract of fresh beef, made by chopping it fine and pouring over it hot water. After maceration the juice was expressed and the extract boiled for several minutes. It was then filtered, and again boiled to thoroughly destroy all germs. It was then placed in culture-tubes which had been washed in a solution of corrosive sublimate, and afterwards boiled. The tubes were closed by absorbent cotton which had been sterilized with corrosive sublimate and the application of dry heat. After the culture-fluid in the tubes had cooled, a minute quantity of the serum was introduced by a small knife whose blade had been heated in a spirit-lamp. The tubes were then placed where the temperature ranged from 90 to 120 degrees Fahrenheit. On examination of these tubes on the 28th, the liquid was found turbid, a thin membrane formed over the surface, and there was a slight deposit. Under the microscope thousands of micrococci were seen. From this cultivation a second was made, and, after standing forty-eight hours, the surface membrane, cloudiness of fluid, and slight deposit appeared, and myriads of micrococci were found. From this a third generation was started, in which appeared a few bacilli, the first discovered.

These are very active, colorless bodies, measuring from three to five micro-millimetres in their long diameters, and from one-third to one-half micro-millimetre in their short. Their movements are at times rapid. Sometimes, after remaining a long time motionless, one will suddenly dart across the field of the microscope, setting many of its fellows in motion, who seem to catch the spirit of the active bacillus. At one time they advance with the rapidity of an arrow, then retreat or describe circular lines. It was noticed in those cultivations in which the bacilli were found that the surface membrane was thicker and more tenacious. In cultivations conducted at a lower temperature the development of micrococci was not so rapid. Fearing that some atmospheric germs might have been introduced with the culture, other cultivations were begun from the second generation, in which no bacilli were found. The culture-fluid was boiled at intervals, to kill germs that might develop from spores not destroyed by previous boilings; and, as a further test, non-inoculated tubes were placed by their side. In forty-eight hours the former were swarming with both bacilli and micrococci, while the non-inoculated ones remained clear for ten days. These subsequently developed germs after inoculation. A second series of observations was commenced with fresh virus, obtained October 4. The first and second

cultures were pure, but in the third bacilli appeared, and in the fourth they had greatly increased. It is difficult to explain the relation these forms bear to each other, whether or not the bacilli are organisms developed from the micrococci: the latter being in a sporal stage of their growth, our investigations will not justify a positive answer. Koch has determined that the bacilli of anthrax develop veritable spores, and they in turn develop bacilli. Several other observers hold this view, and, according to the investigations of Koch, Cohn, and Pasteur upon the development of bacteria, it is probable that the spores of bacilli and other bacteria are identical with micrococci in form, aspect, and behavior towards chemicals. In those diseases in which certain bacilli and micrococci are found to be the virus, it is impossible to distinguish them from harmless ones by their microscopical appearance; that is, a specific disease-germ can only be determined by its effects on living organisms. The micrococcus of pleuro-pneumonia, so far as present observations go, is identical with that of diphtheria, chicken cholera, and the recently-discovered micrococcus of scarlet fever. It is further found that the germ of virulent matter rendered harmless by attenuation does not differ microscopically from the unattenuated which destroys life. I have made no inoculations on animals with the micrococcus of pleuro-pneumonia, but a few cows have been inoculated by others without any reference to a special virus or cultivation of the germ, and the disease was transmitted. However, several experiments have been made, in view of destroying the germ, the results of which I will briefly state. A tube containing cultivated micrococci was boiled, and from it a second was inoculated. In thirty-six hours the tube contained many micrococci, showing that the germ is not destroyed at 212° (F.). A culture-fluid to which had been added ten per cent. of alcohol was then inoculated. No micrococci had developed one week later. One and one-half per cent. of benzoic acid, with borax to dissolve, was then added to a culture-fluid; neither micrococci nor bacilli had appeared six weeks afterward. Another culture was started, to which was added corrosive sublimate in the proportion of one-half grain to the ounce. In three weeks there were no traces of germ-life. To test the influence of cold on these organisms, a tube containing cultivated germs was frozen, and from this sterilized liquids were inoculated. In forty-eight hours they contained myriads of micrococci and a few bacilli. A portion of diseased lung was frozen, and inoculations from this grew in about the same time. It was afterwards found that the cotton which had been sterilized by heat and corrosive sublimate had been inadvertently exposed to old cultivations and decomposing organic substances, and it is possible that bacteria were introduced by it. When I repeated these experiments, it was found that, while inoculations from non-frozen virus develop micrococci in a few hours, it requires several days for sowings from frozen specimens to grow in the same culture-fluid, and under the same conditions of temperature. Whether they were not exposed to cold long enough to destroy the germs, or the influence is only sufficient to render them inactive, further investigations will be required to determine. It is my impression that cold will check the spread of the contagion, but will not destroy it altogether, and that when the disease once attacks an animal cold will have no influence upon it, though it may prevent the spread of the infection to others in the same herd. The power of medicinal agents to control the disease seems to be very feeble. It would appear that corrosive sublimate, alcohol, and benzoic acid arrest the growth of these germs; but whether doses sufficient to destroy them can be administered without endangering life, our veterinary surgeons must determine.

DISCUSSION.

Dr. SHAKESPEARE said that he had read of two attempts within the last year or two to isolate the micrococcus of this disease. Bruylants and Ferree united in an attempt of this kind, and have reported (*Bull. de l'Académie Belgique*, 1880) that they found a micrococcus constant in the pleuritic and alveolar exudate. More recently the report of Poels and Nolen, of Rotterdam, has appeared, in which they describe the isolation and culture of many generations of micrococci. Moreover, they have compared them with those of human pneumonia, claiming their identity morphologically and with regard to their mode of growth, and a further identity as to the results of inoculation, their experiments showing that pleuro-pneumonia in cattle has been produced by inoculation of the cultures of micrococci from human croupous pneumonia, as well as by inoculation of cultures from the pleuro-pneumonia of cattle. The latter report is published in the *Centralb. f. d. Med. Wiss.*, No. 9, 1884.

Dr. FORMAD said that this micro-organism had also been seen and described by Veterinary Surgeon Lyman, who had presented a very elaborate report to the Department of Agriculture. Dr. Quile also, both a medical man and a veterinary surgeon, had worked in pleuro-pneumonia for two years in the Pathological Laboratory of the University of Pennsylvania, always finding the micrococcus present, and in pure cultures kept up for many generations he had not observed any other bacteria. He had inoculated two calves with large quantities of the culture, and had failed, whence he had concluded that the micrococcus was not the cause of the disease. He remarked as a fact in favor of the micrococcus being the cause of the disease that these or-

ganisms are chiefly found in the lymph, and that in pleuro-pneumonia enormous lymph-spaces are developed in the lungs, which are filled with a grumous liquid containing micrococci in large numbers, while the contents of the alveoli contain very few micrococci, but swarm with other bacteria.

Dr. DUNN, in his concluding remarks, said that one point of interest had been omitted in his paper, which was, that the cattle from whom the specimens had been obtained had been first knocked down, then bled to death, and buried superficially in a field through which flowed a stream from which neighboring herds were watered. In a few weeks the disease appeared in these cattle also. As to the literature of the subject, he had not access to sufficient to familiarize himself with any investigations made by others. Some experiments with reference to inoculation have been successfully made in France and England. The lymph was introduced into the body and tail, and was found to protect the animal from the disease. When the virus was inserted into the tail with proper precautions, the mortality from the operation was less, being from one to two per cent. It was also found that when the tail became greatly inflamed it could be removed to limit the inflammation, and still afford protection to the animal. Inoculated animals did not communicate the disease.

A case of old ununited fracture of both bones of the forearm. Presented by CHARLES MEIGS WILSON, M.D.

This specimen was taken from an arm amputated about the middle of the humerus. Eight months previously the girl had fallen from a window and sustained an oblique fracture of the ulna and radius, that of the ulna being about an inch and a half, and that of the radius two inches and a half, below the elbow-joint. The arm was the seat of several large ulcers, and many sinuses were present. The probe detected dead bone. The specimen shows that there has been no attempt at union in the radius, but that the comminuted fragments, being attached to periosteum, have not been destroyed. There has been slight union of the ulna. The cartilages have been destroyed. The joint contained pus, and the internal condyle of the humerus showed a carious condition. The patient made an excellent recovery after the operation.

A specimen of tumor of the bladder was next presented by Dr. J. H. MUSSER.

Case of multiple ovarian fibro-cysts, with sub-peritoneal fibroids and general (tubercular) peritonitis. Presented by Dr. H. M. FISHER.

Barbara K., æt. 40, married, born in Germany, was admitted into the Episcopal Hospital early in July. Her father died of a tumor in the axillary region, one sister of paraplegia at the age of 16, and one brother and one sister are still alive and healthy. She married early, and had three children. Of these one lived but one day, one died at the age of 12, of "dropsy," and the third (a boy of 18) is still living. Two weeks after the birth of the last child she was obliged to get up and make severe muscular exertion, actually laboring in the fields. Soon after this she noticed that she was losing blood per vaginam, and that she could no longer nurse her child. This bleeding appears to have recurred at intervals of two weeks for a year or more, and often amounted to a positive hemorrhage. Notwithstanding that this was the case, and that she had occasional attacks of severe pain, she continued to work as usual until three or four years ago. Three years ago she came to this country. At about this time she noticed a lump in her left groin, and from this time her abdomen steadily increased in size, she was seldom entirely free from pain, her appetite failed, and her bowels were habitually constipated.

Status Præsens.—Patient is anæmic, and has a careworn, haggard look. Abdomen much distended. Distance from xiphoid to umbilicus two inches greater than from umbilicus to symphysis. Percussion clear over abdomen anteriorly, dull in flanks; fluid moves freely with patient's movements. Hepatic dulness begins in third interspace in mammary line, but not apparently increased in width. Examination of heart reveals a faint systolic apex-murmur. Examination of lungs gives negative result. Much dyspnœa. The dyspnœa becoming urgent, she was (July 14) tapped in the median line, two inches below umbilicus, and eight quarts twelve ounces of a straw-colored fluid rich in albumen were removed. Immediately after the tapping an exceedingly hard mass was noticed in the left iliac region, apparently of the size of a turkey's egg. On the 23d she complained of much pain in the left leg, and the tissues were noticed to be œdematous. This œdema was only slightly relieved by several punctures which were then ordered to be made. From this time till her death patient complained much of dyspnœa, hypogastric pain, and obstinate constipation. She was tapped time and again, and on each occasion a large amount of straw-colored fluid was removed. September 21. Patient had a sudden attack of severe dyspnœa this evening, and died in ten minutes.

The post-mortem examination was made by the resident physician, Dr. J. K. Mitchell, sixteen hours after death, who furnished me with the following notes: "Drew off fourteen quarts of fluid from the abdominal cavity by trocar and canula, all clear and straw-colored. On reinserting canula, a small quantity of dark-brown fluid, looking like beef-tea, came through. The belly-walls were very thin; peritoneum everywhere

much inflamed; whole intestinal surfaces and peritoneum covered closely with small whitish or pinkish points of tubercle; glands not very much enlarged, but very hard; omentum as thick as one's hand, and of an almost wooden hardness and stiffness. Liver and kidneys apparently perfectly healthy. Two cysts in the broad ligaments of the uterus, the larger one about the size of a base-ball or less; one had been tapped by the canula, the other contained about four ounces of the same brown 'ovarian' fluid. The ovaries macroscopically seemed healthy, and the uterus was normal in size and position. The lungs, though much compressed, showed no signs of disease and no adhesions. The heart had also been forced with the lungs upwards, otherwise nothing wrong with it."

A subsequent examination of the specimens brought the following facts to light. The uterus is decidedly hypertrophied, measuring about four inches internally, and appears abnormally hard. Closely attached by false membranes to the lower part of the body of the uterus, upon the right side, there is a hard fibrous nodule of the size of a pigeon's egg. A somewhat larger mass, of similar character, is seen higher up and to the left of the uterus. The right ovary is enveloped in false membranes and closely adherent to the fundus of the uterus. The left Fallopian tube opens directly into the larger cyst of which mention has above been made. This has at its base a fibrous nodule (about two and one-half inches by three-quarters of an inch), which is covered on its under surface by a mass of false membrane. (This is probably the mass that was detected during life in the left inguinal fossa.)

In addition to the cyst above mentioned, there were two other much smaller cysts, but I found it impossible to make out the exact relations of these to the other cysts without making a careful dissection, and this I failed to make. None of these cysts appeared, however, to be connected, as was stated above, with either broad ligament. The left broad ligament was found to be perfectly free; the right was wanting, but appeared to have been removed during the autopsy or subsequently.

The case is a complicated one, but the sequence of pathological events appears to have been the following. The patient, having made severe muscular exertion a fortnight after confinement, is attacked by perimetritis and metritis. This inflammation, at first acute, soon becomes chronic in consequence of the patient being unable to get proper care and the rest that she required. Whether the subperitoneal fibroids from which she was found to have suffered had been already developed at the time this acute pelvic inflammation occurred, it is impossible now to say; but it is probable that they were of later development. Coincident with the periodical hemorrhages and attacks of pain that the patient now suffered from, fresh portions of the pelvic peritoneum are invaded. Finally the peritoneum adjacent to the ovary is reached, and a peri-oöphoritis is the result. The inflammation of the peritoneal investment of the ovary extends, as Heitzmann states, to the ovary itself, causing a proliferation of connective tissue on the cortex of the organ, and from here to the adjacent connective-tissue stroma. In this way the bursting of a ripened follicle may, as he says, be prevented, and a path may be opened for the formation of an ovarian cyst. Supposing this to have occurred in this particular case, we may easily see how the connective-tissue proliferation may have gone on hand in hand, as it were, with the cystic degeneration of the ovary, until the whole ovary was converted into the multiple fibro-cyst that we see in the specimens.

The inflammation extended but slowly from the pelvic to the general peritoneum, probably because the products of inflammation were for a long time in great measure circumscribed by false membranes. Little by little, however, these products were taken up by the lymph-channels, until finally the whole peritoneal surface was infected by them. The occurrence of general peritonitis probably did not antedate much the occurrence of the abdominal dropsy, three years ago, as before that time the patient, though occasionally incapacitated for work by pain, was still able to attend to her usual occupation during the greater part of the time.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held December 10, 1884, Dr. VAN GIESON, Vice-President, in the chair.

ROUND-CELLED SARCOMA OF THE UTERUS.

Dr. H. C. COE presented a specimen of round-celled sarcoma of the lining membrane of the uterus removed at autopsy. It was interesting not only on account of the comparative rarity of the disease, but also with regard to the history of the case. The patient, who was over 30 years of age, married, had entered the Woman's Hospital for relief from severe pain in the lower part of the abdomen and frequent uterine hemorrhages. The uterine canal was dilated and curetted, about an ounce of brain-like substance being removed, which was found to be round-celled sarcoma. The woman died of pyæmia on the eighth day after the operation. There were found metastatic abscesses in the lower lobe of the right lung, the largest the size of a hen's egg, and infarctions of the liver and spleen, together with a purulent thrombus of the right iliac vein extending into the vena cava. Dr. Coe was of opinion that sarcoma

of the lining membrane of the uterus was not of so infrequent occurrence as was generally supposed, and said that it was not improbable that a number of the cases of this disease were mistaken for fungous endometritis.

PORTIONS OF THE SCAPULA REMOVED BY OPERATION.

Dr. JOHN A. WYETH presented a portion of the acromion process and spine of the scapula which he had removed for ostitis following traumatism. The point of interest in the case was the fact that complete healing of the wound and recovery took place under one dressing. Antisepsis was observed during and after the operation.

NECROSIS OF THE HEAD OF THE TIBIA.

Dr. WYETH also presented some pieces of bone which he had removed seven weeks previously from a patient 36 years of age, who had received an injury of the tibia in the neighborhood of the knee-joint two years before the operation. There was an ostitis which Dr. Wyeth thought had followed periostitis. It became necessary, in order to remove all of the dead bone, to enter the knee-joint, which was done with great care, protecting the opening constantly during the operation with a piece of iodoform gauze. The patient recovered without any symptom of arthritis, or even of synovitis.

HIP-JOINT DISEASE.

Dr. WYETH also presented all that remained of the head of the femur of a boy who had been suffering for two years from hip-joint disease. He performed exsection with an exsector which he had already exhibited to the Society, and he again spoke in praise of the work done by the instrument. Before the operation the shortening of the limb amounted to two inches, but reformation of bone had taken place to such an extent that there now existed but one inch shortening. Dr. Wyeth stated that exsection for hip-joint disease was not dangerous, and it should be resorted to as soon as invasion of the bone-tissue was evident, and thus the patient would be saved many years' suffering, permanent lameness, and perhaps death. He had never had but one patient die after the operation, and in that instance death took place six months subsequent to the operation, and was due to other causes.

Dr. V. P. GIBNEY remarked, concerning the second specimen presented by Dr. Wyeth, that the case was one of what would be considered as tibial abscess, for which some at the present time performed the operation of trephining, but he thought the treatment adopted by Dr. Wyeth was very commendable, and it showed how timely interference would save the joint from becoming disastrously diseased. He had reported the case of a boy 5 or 6 years of age, who suffered from tibial ostitis, no surgical, and very little mechanical, interference having been made. Finally a cold abscess formed, which ran a long course; the knee-joint became implicated, and he had now white swelling. Further than that, he had recently developed ostitis of the head of the opposite femur. Dr. Gibney felt convinced that, had the operation performed by Dr. Wyeth been performed upon the tibia early in this case, the knee-joint would not have become diseased, and tubercular ostitis of the left hip would have been prevented. He asked Dr. Wyeth why, in the case of his third specimen, it would not have been as rational to resort to the operation of gouging out the bone-detritus as to perform excision.

Dr. WYETH replied that one objection would be that, the hip-joint being deeply seated, it would be difficult to remove all of the dead bone, particularly if it extended below the line of the trochanter. But he was not willing to say that the gouge should never be used on the hip-joint.

Dr. J. H. RIPLEY inquired if it were common to find multiple abscess of the joints in patients who had not a strong diathesis. He thought that prolonged disease in the joint in the case narrated by Dr. Gibney would of itself indicate a strong tubercular or specific diathesis, and, this being the case, there probably would have been subsequent disease of the hip-joint, whether or not an operation had been performed upon the tibia.

A CASE OF SPINA BIFIDA CURED; SUBSEQUENT DEVELOPMENT OF CHRONIC HYDROCEPHALUS AND DEATH BY ASTHENIA.

Dr. V. P. GIBNEY presented the brain and a portion of the spinal cord of a child which was first brought to his clinic on the 11th of July, when it was seven days old. At that time there was a tumor over the coccyx and sacrum, which was of small size, smooth, and perfectly translucent. There was at the end of the tumor a mark which indicated the presence of a partially-healed ulcer. On the 23d of July the tumor seemed to be somewhat larger, and, without examining it by the light-test, Dr. Gibney introduced an aspirator and found pus instead of serum. Dr. Ripley, who saw the patient, was of the opinion that the contents of the sac had become purulent from contiguity to the small ulcer. About the 25th of the month the reflexes of the patellar tendons were exaggerated, and it seemed that myelitis would develop. On the 29th he thrust a bistoury a distance of two or three lines into the tumor, when it seemed to enter a second tumor. After two weeks the tumor became harder, and it appeared that the outer enlargement had collapsed and produced a cure of the spina bifida. There was no further trouble with the tumor, and the patellar reflexes became normal. About a month later, prolapsus of

the rectum occurred, and on the 23d of August the head was noticed to be growing larger. Hydrocephalus rapidly increased, and on the 1st of September Dr. Gibney began a series of aspirations of the cranial cavity, withdrawing at each operation only a small amount of fluid, without producing any unpleasant effects whatever. The last aspiration was performed on the 4th of December, when the needle seemed to strike a somewhat resisting substance. The child died on the 6th of December.

At the autopsy the sac of the spina bifida was empty, but was capable of containing about ten minims of fluid. It was difficult to determine whether or not there had been an abscess over the spina bifida. There was no dilatation of the canal of the cord. Two pints and a half of serum were removed from the cerebral ventricles, which were dilated into one large cavity, obliterating nearly all trace of convolutions. The cerebellum and the medulla oblongata were not involved. The places of entrance of the aspirator-needle were indicated by a few points on the gray matter.

Dr. RIPLEY remarked that perhaps Dr. Gibney had used the needle too often. Bennet had tapped a hydrocephalic child three times, death taking place after the third operation, and he thought that the tapping had been too frequently repeated. He cited Conquest, who had aspirated in nineteen cases of hydrocephalus. Ten of the patients recovered, and in those cases the operation was repeated only every two weeks. This, however, was an unusual experience.

Dr. GIBNEY remarked that in his case he at first aspirated every two weeks, but, later, once each week.

Dr. RIPLEY spoke of two cases of undoubted hydrocephalus in young children, both patients recovering,—one with treatment by aspiration and the other without. In both cases the peculiar hydrocephalic signs disappeared and the cranial sutures united. Although it was commonly supposed that the fluid in hydrocephalus did not become absorbed, it must have disappeared by absorption in these cases.

THE PLACENTA OF ABORTION.

Dr. HOPPER presented a placenta of apparently the fifth month of development, which contained a fœtus apparently of the third month. The patient had borne two children, and again ceased to menstruate for three months. The uterus developed for a time, then began to diminish in size. She complained of loss of appetite and general uneasiness, and, after a time, expulsive pains came on and caused the placenta, with a small fœtus, to be expelled.

THE LANCASTER CREMATORIUM was formally opened November 25.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

STATED MEETING, THURSDAY, DECEMBER 4, 1884.

The President, R. A. CLEEMANN, M.D., in the chair.

OVARIAN TUMOR.

DR. DRYSDALE presented a polycystic ovarian tumor, which he had removed that morning. He had first seen the patient with Dr. C. R. Prall, May 5, 1884. She was a married lady, 50 years of age, pale, thin, and delicate-looking. She had had eight children, the youngest of whom was then 16 years old. With some trifling exceptions, her menstruation had been perfectly natural until two months before. Since then she had had a constant and sometimes profuse discharge of blood from the vagina, which still continued. She first discovered the tumor in March, 1884.

On examination, Dr. Drysdale found a semi-solid, smooth-walled, globular tumor occupying the lower part of the abdomen and reaching nearly to the umbilicus. It was freely movable, did not fluctuate, but was elastic and a little tender to pressure. Vaginal examination revealed a lacerated cervix. The sound entered the uterus two and a half inches, taking a direction to the right of the tumor. On deep pressure, the end of the sound could be felt at the lower part of the right border of the mass. While the sound was in the uterus the tumor could be moved freely without affecting it. Dr. Drysdale diagnosticated a multilocular ovarian tumor.

By the 5th of June—one month later—it had reached nearly to the ensiform cartilage. From this time it increased rapidly in size, and when it was removed filled the abdomen, pressing the lower ribs outwards. It proved to be a multilocular tumor of the left ovary.

His object in bringing it before the Society was to obtain an opinion from the members as to the cause of a phenomenon which was observed in the early stage of the growth. At the time the patient first noticed the enlargement, she found that when she would lie on her right side the tumor would ascend to the left, and when on her left side would rise to the right, as if lighter than the surrounding parts. She informed Dr. Prall of this, and he naturally supposed she was mistaken, but a careful examination of the tumor while she changed her position verified her assertion. As the mass increased in size this peculiar change of position ceased, and when the abdomen was opened nothing could be found to account for the irregular behavior of the growth.

Dr. PARVIN inquired about the length of the pedicle and the weight of the tumor.

Dr. J. C. DA COSTA has a case under obser-

vation in which the condition of great mobility is present.

Dr. DRYSDALE replied that the pedicle was extremely short. The tumor weighed thirty-five pounds, and was multilocular in character. At the time of its removal he could not determine any fluctuation. Every parovarian cyst is movable in its early stages. He intended to call attention to the peculiar and, to him, unaccountable motion of this particular cyst.

HYDROCHLORATE OF COCAINE.

Dr. CHARLES MEIGS WILSON presented the histories of three cases in which the hydrochlorate of cocaine had been used in operations with the hope of obtaining local analgesia, and reported negative results.

MALIGNANT CYSTIC DISEASE OF OVARIES.

Dr. D. LONGAKER exhibited the specimen, with the following history. The subject from whom this specimen was removed was a German woman, 63 years old. She had been married the last twenty-seven years of her life, and was sterile. During the last five months she was under the care of Dr. Jos. S. Gibb, of this city, at whose request I first saw her, and by whose kindness I am enabled to report the case. The menopause was established at 53,—ten years ago. The patient had always enjoyed fair health, but four years ago she again began to have a bloody discharge from the vagina. For this she consulted a doctor, and was soon well again. The date of the onset of her last illness was indefinite. It was insidious, and the particular symptom for which she desired relief was inability to micturate. This was found to be due to suppression of the secretion of urine, as the bladder was empty. There was also decided interference with nutrition; her appetite and strength failed rapidly. The urine was found to contain a very small amount of albumen. She had occasional nausea and bilious vomiting and diarrhœa. She suffered with pain in the left side of the abdomen. On examination the doctor discovered a hard tumor (nodulated) to the left of the uterus, projecting upwards into the left inguinal region. It was adherent, and but slightly movable.

She was first seen by me on October 6. At this time she was in bed, suffered from orthopnœa, and was unable to rest or lie down. Her abdominal cavity was greatly distended by a fluid which had accumulated rapidly in the previous three or four weeks. Œdema of the ankles had been noticed a few days before. Her general appearance was decidedly anæmic and cachectic. The abdomen was very tender to palpation, especially over the left inguinal and hypogastric regions. The flanks were bulging, and were flat on percussion. The tumor could be indistinctly outlined, immobile, lying in contact with the left ilium, dipping down into the true pelvis behind and to the left of the uterus, and distinct from it. The cervix had undergone senile absorption, but from the os externum a small polypus was found hanging in the vagina.

October 7 she was tapped. A large bucketful of a brownish-red fluid, of specific gravity 1020, was removed. On microscopic examination it was found to contain blood and various corpuscles and epithelium (the ovarian cell was not found). It contained paralbumin.

A more careful examination now revealed a circumscribed, clearly-defined, firm, nodulated growth in the region already indicated. It was found adherent, and could be only slightly displaced. It was of the size of a large fist. Palliative treatment was continued, but the patient's condition gradually grew worse. There was again a slight accumulation of fluid in the abdominal cavity. She was subject to attacks of bilious vomiting and diarrhœa, alternated with constipation. There was no apparent increase in the size of the tumor, and during this period pain was not a marked symptom. At no time was there acute suffering. She died of exhaustion, November 27.

Autopsy was made the next day by Dr. Gibb, in the presence of and assisted by Dr. E. W. Holmes and myself. The subcutaneous fat had been almost entirely absorbed. The parietal peritoneum was covered with lymph, with numerous nodular elevations in various stages of organization. The intestines had contracted numerous adhesions. The capsule of the liver was one-eighth of an inch thick. In the mesentery there were also deposits of lymph, some of which were more recent and less organized. The abdominal cavity contained about two quarts of fluid, the same as that already described.

On the left side, extending two inches above the pelvic brim, was found a tumor apparently solid, but which, on close examination, was found to be cystic. One of the largest of the cysts had ruptured; the opening was found at the posterior-inferior portion of the growth. It was not recent. The capacity of the emptied cyst was about four ounces. The tumor dipped down into the true pelvis between the broad and utero-sacral ligaments of the left side. It was very adherent, and was removed with great difficulty. On incising and freely opening the cyst, some coagulated fibrin was found,—the remains of a hemorrhage into the cavity. When it was entirely removed it was found to arise from the left ovary. The oviduct was slightly dilated, and its fimbriated extremity was adherent to and spread out over the tumor.

On the right side, in the broad ligament there is a cyst slightly larger than the tumor.

Its contents are dark and very dense; it is very heavy. The cyst is surrounded by a dilated Fallopian tube containing a clear, transparent fluid of a bluish-white hue. At its widest part it is an inch in diameter. Behind and below this cyst is found the right ovary; it is adherent, flattened out, and seems continuous with it. The entire specimen was carefully dissected out as it is shown. From its rapidly-fatal tendency, with the macroscopic appearance of the tumor, there is very little doubt that a microscopic examination will reveal it to be malignant. Though perhaps possessing the greater pathological interest, there are also a few points in the case which may concern us in regard to diagnosis and treatment. Study of the fluid at first caused a suspicion that it came from a cyst; its high specific gravity and the chemical tests to which it answered favored such a view. But this was entirely at variance with the history of rapid accumulation and absence of physical signs indicating the existence of a large cyst. It was apparent at the autopsy that an attempt at extirpation could only have hastened the fatal result.

The specimen was referred to a committee for further investigation.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

MEETING OF NOVEMBER 24, 1884.

DISCUSSION ON THE THIRD STAGE OF LABOR.

DR. W. M. POLK, being requested to open the discussion, said that he heartily agreed with the author of the paper* in saying that we were not in a position to discard Crédé's method. It seemed to him that the method had been so rich in good fruits since its introduction into America, as shown by statistics, that its advantages were placed beyond controversy. He certainly had never seriously contemplated abandoning it in any respect, and he could not understand how any practitioner of experience could once claim that Crédé's method should be relegated as a piece of useless rubbish. There were one or two points, however, in the paper to which he must take amiable exception. For instance, ceasing the administration of chloroform at the close of the second stage, or as the child's head began to distend the perineum, seemed very improper, as this was just the time when the patient most felt the need of the anæsthetic, and he thought the damage which pressing the chloroform at this moment might do would be fully compensated for by the relief which it would give the patient. Of course every one knew the danger of producing inertia of the uterus, and this danger had appeared to him to be so great that he had at moments almost contemplated never using the agent again, but when he did employ it he continued its administration until the head was virtually expelled.

He further disagreed with the author with regard to non-twisting of the membranes. He had seen no harm come from the practice, and he thought it might do good. If within five minutes after delivery of the child the uterus did not show a tendency to contract and expel the placenta, he thought it our duty to begin to practise Crédé's method; and if after the lapse of from half an hour to three-quarters of an hour by this method the membranes were not expelled, he should regard the case as a pathological one.

Dr. BARUCH inquired of Dr. Polk what had been his experience with reference to expulsion of the placenta into the vagina shortly after the second stage of labor among the women of higher social life.

Dr. POLK replied that he had found experience to vary in this matter, depending upon the health and strength of the woman. In weaker women the placenta was liable to be retained within the os, while in the stronger, whatever might be their social standing, it would probably be expelled.

Dr. ROBERT A. MURRAY believed with Dr. Baruch that no method would take the place of Crédé's in cases demanding its use, but he believed also that nearly all the physicians in New York City practised a method which was superior to Crédé's in the large majority of cases of midwifery. It was taught, he believed, by all, or nearly all, professors of midwifery in the city that after the second stage of labor had been completed the physician should retain the hand upon the uterus, aiding in its contraction, until the organ has assumed permanent contraction. If this were done, the true expression method of Crédé would be applicable only in cases in which hemorrhage was threatened after the use of chloroform, or after extreme exhaustion of the patient from prolonged first stage, powerless second stage, or instrumental delivery. He practised twisting of the membranes.

Dr. J. H. FRUITNIGHT agreed with the author as to the advantage of placing the hand against the external vaginal orifice to guard against too rapid expulsion of the membranes. He considered twisting of the membranes a proper procedure. Out of six hundred and fifty cases of midwifery, he had had retention of the membranes in one case and post-partum hemorrhage in three or four. He regarded the placenta after delivery as a foreign body, which should be expelled from the cavity of the uterus as soon as practicable.

Dr. IRWIN thought the paper gave one the impression that the Dublin school and the English physicians interfered in the third stage of labor more than they do in fact. He spoke from his experience in the hospi-

* Paper by Dr. Baruch: see page 216, *ante*.

tals and attendance on societies at which this subject had been discussed. He thought he was not mistaken in his recollection that their practice was usually to adopt the expectant plan. At the same time, however, they would not exclude active assistance, especially in cases which seemed really to call for it. They did not object to the removal of the placenta when it lay loose in the vagina, and they favored twisting of the membranes, but not pulling upon them.

Dr. MALCOLM MCLEAN directed attention to the importance of having a clean vessel at hand into which to cast the placenta, in order that it might be examined carefully with regard to whether a portion of it may have remained in the uterine cavity.

Dr. BARUCH, in closing the discussion, said, with regard to Dr. Polk's statement concerning the use of chloroform, that he recognized the desirability of lessening the patient's sufferings, which were very intense at the close of the second stage, and for that reason he continued its administration, in cases which demanded the employment of the anæsthetic, up to a moment before the delivery of the child. His only objection to twisting the membranes was that there was a temptation and a liability to make some traction during the procedure, and this would favor tearing.

REVIEWS AND BOOK NOTICES.

A TEXT-BOOK OF PRACTICAL MEDICINE. Designed for the Use of Students and Practitioners of Medicine. By ALFRED L. LOOMIS, M.D., LL.D. With Two Hundred and Eleven Illustrations. New York, William Wood & Co., 1884. 8vo, pp. 1102.

This work traverses the usual field of internal pathology considered in text-books upon the practice of medicine, but it does so with evidences of such unusual discretion and skill as to present the subject in a fresh light and to constitute a most acceptable addition to medical literature. The illustrations are abundant, original, and, as a rule, neatly drawn, and well illustrate the text, in which the subjects are discussed in the light of the most recent additions to our knowledge of pathology and therapeutics. The work is characterized throughout by temperate statements with regard to vexed questions in pathology, shown particularly in the consideration of the several zymotic diseases, and in the suggestions for treatment it is a safe guide. The pages do not bristle with ready-made formulæ and specifics for various symptoms, and on this account will probably be more acceptable to those who know the fallacies and dangers of dogmatism in therapeutics. For students this will probably be regarded as the best American text-book of practical medicine that has recently appeared.

A TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By JOHN J. REESE, M.D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. 8vo, pp, 606. P. Blakiston, Son & Co., Philadelphia.

Medical jurisprudence is as yet an undeveloped, or perhaps it would be more accurate to say an undifferentiated, specialty in this country. While a fair number of medical men have sufficient knowledge on individual topics, such as insanity and poisonings, there has as yet been no attempt to cultivate the science in connection with our medical colleges to such a degree as to produce medical jurists commensurate in knowledge with the ophthalmologist, gynæcologist, and other specialists in practice. That this is a serious error in medical education is admitted. It arises partly, perhaps, from the lack of material for the practical instruction on the topics involved, partly also from the rather ponderous character of the literature of the science.

The work before us is a step towards attracting students to the study of medical jurisprudence and toxicology. The author has been long known in the field to which it is devoted, and he brings to bear in its production large experience as an expert and as a teacher both to medical and legal students. A careful examination of the book bears out these expectations, and we are pleased to learn, from a perusal of the journals, that it has been everywhere favorably received.

The work covers the entire subject, a large amount of the space being given to toxicology. The style is clear and condensed, and the arrangement of the matter satisfactory. The absence of illustrations can hardly be considered a defect, because the facilities of chemical and microscopical investigation are at the present time so great that any interested student can prepare specimens for himself, and such preparations will be of much greater practical value than any schematic illustrations.

It is to be hoped that the work will find favor in the eyes of those whose duty it is to guide the studies of medical students in the departments of toxicology and jurisprudence.

GLEANINGS FROM EXCHANGES.

REMOVAL OF RIGHT KIDNEY.—At Milan, on June 8, Prof. Bottini extirpated a kidney under the following circumstances. A. M., 27 years of age, had had two calculi removed by lithotomy fifteen years before. Three years after the operation an abscess formed and discharged in the iliac fossa, and then reappeared in the lumbar region, where it was opened by the use of caustic potassa, which was followed by a permanent fistula.

Having decided to remove the kidney, Prof. Bottini, operating under strict antiseptic precautions, made a vertical incision along three inches outside the quadratus lumborum muscle. The kidney was isolated, the renal artery was secured by one ligature, the vein and ureter by another. A drainage-tube was introduced after the space had been cleared and bleeding stopped. The sinus was incised, and its walls united by sutures. The dressings were renewed daily, the drainage-tube was gradually shortened and entirely removed on the eighteenth day. Temperature was 100° on the second day, and soon became normal again. Urine was secreted in proper quantity, without pain, and gave no deposit. The patient went home on the eighteenth day, with the wound nearly healed. Upon examination, the kidney was found to weigh forty-eight grammes. It was the site of chronic pyelonephritis, and two small calculi were found in its dilated pelvis.

POISONING BY ONE-FOURTH GRAIN OF MORPHINE.—At a meeting of the Cincinnati Academy of Medicine, Dr. Thad. Reamy reported a case of fatal poisoning from one-quarter of a grain of morphia sulphas. The patient was a well-nourished lady of twenty-eight years of age. Dr. Reamy had operated under ether, at the Good Samaritan Hospital, for laceration of the cervix uteri and perineum. The operation lasted thirty minutes, and the patient came nicely out from under the anæsthetic in another half-hour. About an hour after the operation, the patient in the mean time having been conversing with friends, pain was complained of, to relieve which Dr. Hirons, the house-physician, administered one-fourth grain of morphine hypodermically. In about one-quarter of an hour the pain subsided. Dr. Hirons visited the patient again in about an hour, when he found her semi-comatose, with contracted pupils, slow respirations, and feeble pulse. The usual restoratives were administered by Dr. Hirons, Dr. Reamy (who was hastily summoned), and Dr. Mitchell (who happened in). The patient sank gradually, and died in about eight hours.

In commenting on this case, Prof. Nickles criticised the treatment in that not enough atropine was given. One-ninety-sixth of a grain had been given with the morphine. This amount of atropia was twice repeated, and afterwards one-twentieth grain was given. Prof. Nickles said that it should have been given in one-sixteenth-grain doses every ten or fifteen minutes until the breathing was increased in frequency.

The patient had never taken morphine before, and her peculiar idiosyncrasy was never before discovered.

THE PATHOLOGY OF MYXŒDEMA.—Dr. W. B. Hadden (London), in a paper on this subject (*Proceedings of the International Medical Congress*), said that myxœdema is a disease characterized by a general swollen condition of the body. The appearance of the patients suggested ordinary dropsy, but the parts did not pit on pressure. The face was swollen and puffy, the lips and alæ nasi thickened, the eyelids œdematous-looking, and on each cheek there was a well-defined flush. The general expression was placid and inert,—in a word, cretinoid. The skin everywhere was dry and harsh; perspiration and the secretion of the sebaceous glands were almost absent. The hands were broad, clumsy, and spade-like. The hair was soft and scanty, and tended to fall out. The nails and teeth shared in the general mal-nutrition. The thyroid gland wasted, although it was difficult often to determine this, in consequence of the swelling of the tissues of the neck. Soft masses were usually to be felt in the supra-clavicular regions. The temperature was almost constantly subnormal. The speech was slow, thick, monotonous, nasal. The tongue seemed to be too large for the mouth. There was general muscular feebleness. The gait was slow and tottering, and all movements were retarded. There was marked mental lethargy. An indisposition to all bodily and mental activity was one of the most striking features of the disease. The urea excreted by the urine was much diminished, but, with this exception, there was no constant change. In the latest stages albuminuria and true dropsy might supervene. Somnolence, insanity, impairment of memory, disorders of the special senses, and certain subjective sensations, were frequently experienced. The tongue, uvula, soft palate, and larynx were generally swollen, and difficulty in deglutition was often observable. The appetite was bad, and defecation usually difficult, in consequence, probably, of swelling of the mucous membrane of the rectum. The disease usually attacked adult women, but it occasionally commenced before the age of twenty, possibly sometimes in childhood. It occurred among rich and poor. Climate and race were probably without influence. Syphilis and excess of alcohol had no share in its causation, but permanent mental disturbance and exhaustion from excessive child-bearing were occasional antecedents. As regarded family history, phthisis was remarkably frequent, acute rheumatism and insanity occasional, and in at least one case myxœdema had been observed in the collateral relatives. As to morbid anatomy, the constant factor is a diminution in size of the thyroid gland. According to Dr. Ord, there is solid œdema of the connective tissue throughout the body, and a great increase in the amount of mucin; hence the name myxœdema. The author believed that the disease was probably dependent on change in the sympathetic nervous system, and he thought it not unlikely that the thyroid was in some

relation with the peripheral sympathetic nerve-fibres. This view has recently been borne out by post-mortem evidence. He had seen improvement occasionally from the medical treatment, but especially from jaborandi.

UNUSUAL CAUSE OF INTESTINAL OBSTRUCTION.—A patient who was lately under my care, suffering from chronic obstruction in the intestinal canal, probably in the descending colon, took, on his own account, freely of charcoal powder—often a drachm a day—to relieve flatulency. The result was an all but fatal obstruction. Fortunately, under the use of enemata, coupled with persistent but gentle abdominal friction, relief was obtained, although stercoraceous vomiting once occurred. The excretions causing the obstruction were coated with carbon, and portions of carbon also passed in the free state. This is the second case in my practice in which charcoal powder has caused intestinal obstruction.—DR. RICHARDSON: *Asclepiad*, October, 1884.

MISCELLANY.

NATIONAL HEALTH LEGISLATION BEFORE CONGRESS.—We are indebted to Dr. Gihon, President of the American Academy of Medicine, for a copy of the bill entitled "An Act to Prevent the Introduction of Contagious and Infectious Diseases into the United States, and to Establish a National Board of Health," which was prepared by a Committee of Conference of the State Boards of Health held recently in Washington. The bill has been presented by the Committee on Federal Legislation to the Committee on Public Health of the National House of Representatives, and has a good support from individual members. In view of the prospect of a cholera epidemic, the need of such a board is evident, and, if created, it will be able to demonstrate its usefulness, unless fatally hampered by influences emanating from the Marine Hospital Service.

AN AMERICAN SOCIETY OF PUBLIC ANALYSTS was organized in Brooklyn on the 24th of last month, by representatives holding appointments under the Boards of Health in the several States of the Union. Its objects will be, by frequent meetings, the discussion and publication of papers, etc., to advance and disseminate knowledge regarding adulteration of food or drugs, to secure uniformity of results, and to provide for efficient sanitary control over the food-supply. A meeting was held December 8 for the election of officers.

WOMEN MEMBERS OF MEDICAL SOCIETIES.—Dr. Osborn was recently elected to membership in the Academy of Medicine of Cincinnati, she making the fourth female member. These four lady-physicians are fairly active members of the Academy.

NOTES AND QUERIES.

OBITUARY.

DR. HARVEY L. BYRD, of Baltimore, died in that city, November 29, in the sixty-fifth year of his age. He was a graduate of the University of Pennsylvania, and also attended lectures at the Jefferson Medical College, and revived the Medical Department of the Washington University and was the dean of its faculty for five or six years. He at this time joined several others in forming the College of Physicians and Surgeons of Baltimore, in which he was the president of the faculty and at different times held several professorships. He was editor of the *Oglethorpe Medical and Surgical Journal* for three years, and contributed a number of articles to the medical press. He was a member of several medical societies. At the close of the war, during which he served as surgeon in the Confederate army, he went to Baltimore.

HENRY A. MARTIN, M.D., M.M.S.S., of Boston, died December 7, 1884, at his home in that city.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 7, 1884, TO DECEMBER 20, 1884.

HAMMOND, JOHN F., COLONEL AND SURGEON.—Retired from active service, by operation of law, on December 7, 1884, under provisions of Act of Congress approved June 30, 1882. S. O. 287, A. G. O., December 8, 1884.

MCKEE, JAMES C., MAJOR AND SURGEON.—Leave of absence still further extended one month. S. O. 288, A. G. O., December 9, 1884.

LAUDERDALE, JOHN V., CAPTAIN AND ASSISTANT-SURGEON.—(Fort Sully, Dakota Territory.) Granted leave of absence for one month, to take effect about December 20, 1884. S. O. 146, Department of Dakota, December 9, 1884.

COMEGYS, E. T., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 234, Department of Missouri, December 8, 1884.

PORTER, JOSEPH Y., CAPTAIN AND ASSISTANT-SURGEON.—Sick-leave of absence extended four months, on surgeon's certificate of disability. S. O. 286, A. G. O., December 6, 1884.

KANE, JOHN J., CAPTAIN AND ASSISTANT-SURGEON.—From Department of the East to Willet's Point, New York. S. O. 286, A. G. O., December 6, 1884.

BANISTER, J. M., CAPTAIN AND ASSISTANT-SURGEON.—(Fort Adams, Rhode Island.) Granted one month's leave of absence, on surgeon's certificate of disability. S. O. 251, Department of the East, December 9, 1884.

PILCHER, JAMES E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Ordered to Fort Custer, Montana Territory, for duty. Order assigning him to duty at Fort A. Lincoln, Dakota Territory, amended. S. O. 145, Department of Dakota, December 8, 1884.

GRAY, CHAS. C., MAJOR (retired).—Died at Geneva, New York, November 22, 1884, instead of November 26, as heretofore announced. Circular Orders, A. G. O., December 8, 1884.

LIST OF CHANGES OF STATIONS OF NAVAL MEDICAL OFFICERS FROM DECEMBER 7, 1884, TO DECEMBER 20, 1884.

P. A. Surgeon T. C. CRAIG, detached from "Alliance," and placed on waiting orders, December 6, 1884.

Assistant-Surgeon L. W. CURTIS, to the Naval Hospital, Chelsea, December 9, 1884.

P. A. Surgeon J. H. GAINES, present duty continued.

P. A. Surgeon E. H. GREEN, special duty at Museum of Hygiene, Washington, December 11, 1884.

P. A. Surgeon J. M. MURRAY, detached from Naval Hospital, Chelsea, to the Flag-ship "Hartford," December 9, 1884.

Surgeon T. WOOLVERTON, to the "Shenandoah," December 6, 1884.

Medical Inspector D. KINDLEBERGER, detached from the "Hartford," and placed on sick-leave.